

Manufacturers Record

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AUGUST 1934

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Fields Of Opportunity

The amount of business being placed by private interests for improving buildings and equipment is increasing. Contracts range from changes in home facilities to extensive improvements in stores, office buildings and hotels. They include plants for air-conditioning, modern elevators, better lighting and other late type equipment. A considerable number of such orders are of large size and, as an evidence of private demand, are encouraging.

Advantage is being taken of the discoveries of science and engineering practice to provide economies of operation. Industrial plants are modernizing power units and replacing obsolete machinery with the latest type, high-speed machines to reduce production costs.

Results in light-weight and smooth high-speed railroad transportation have opened a rebuilding field of vast possibilities. Materials and methods in home and business building are undergoing fundamental changes, making for low cost operation and greater comfort.

New entries in the broadening field of air-conditioning promise ways for cooling homes of moderate size at the cost of a small automobile. In larger units coal is filling a part by making it possible to turn on what in winter is a steam radiator, and provide in summer, a desired temperature, even under torrid conditions. Some hotels have already adopted this and have been obtaining a higher price for rooms cooled by this method.

It is now possible, in trucks while in transit, to refrigerate perishable food at nominal cost by the use of gasoline which is used to run the truck's motor after fulfilling its cooling purpose.

Researches in electric lighting are bringing almost daily results that are marvelous in both efficiency and economy. One applied example is in highway illumination that renders automobile headlights superfluous for night driving, and this at lowered cost for the current. Industrial plant operators are taking advantage of these and many other discoveries in the field of electricity.

We are preparing for future living on a scale of efficiency and economy never before known.

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C-E PRODUCTS: Pressure Vessels, Fabricated Plate Work, All Types of Pulverized Fuel Systems, Mechanical Stokers, Boilers, Complete Steam Generating Units, Water Cooled Furnaces, Economizers and Air Heaters.

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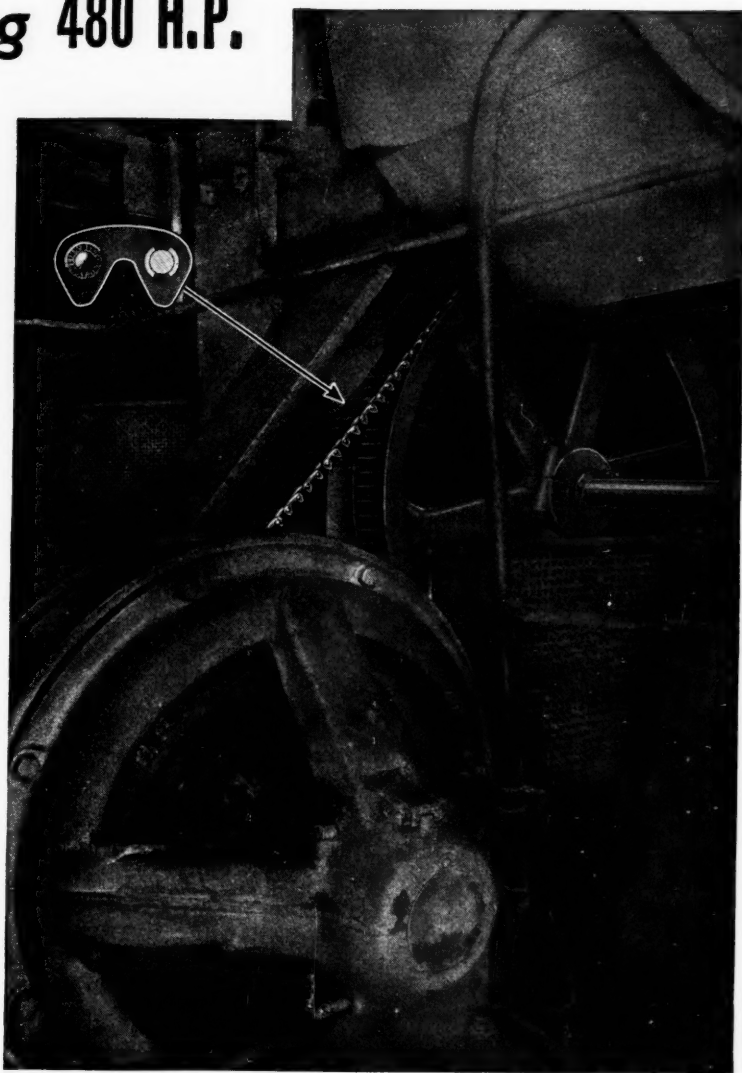
SUCH is the performance record of eight Link-Belt Silent Chain Drives installed in the Minneapolis plant of Archer-Daniels-Midland Co. in 1906. All eight drives are still running at initial efficiency — with the original wheels and chains (with the exception of replacement of one chain this year).

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VARIABLE SPEED TRANSMISSION • CHAIN DRIVES (ALL TYPES)

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AUGUST NINETEEN THIRTY-FOUR

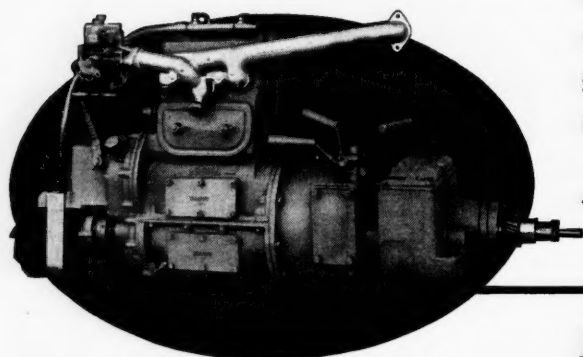


With a "Caterpillar" Diesel Fifty, the costs of dirt and rock moving on this highway job near Morrison, Colorado, were 16½ cents per yard. With other equipment, costs were 27½ cents to 61 cents per yard.

Fredrick & Watson, building 27 miles of new road through Nevada desert, find "Caterpillar" Diesel Tractors a powerful aid in cutting costs. "Caterpillar" Diesels handle the toughest jobs on low-price fuel—and less of it.

"THE 'CATERPILLAR' DIESEL IS THE GREATEST ENGINE I'VE EVER SEEN"

● ● says J. H. Argarter, who operates the Moniteau County, Missouri, "Caterpillar" Diesel Tractor. He adds: "I have worked with many engines since 1920 and this Diesel tractor is beyond a doubt the best of all."



"No expense, no delay"—"Fuel costs below our expectations or even hopes"—"Not a minute's time lost"—"Lots of power, and the smoothest we've ever known"—"Simpler than a gas tractor, and better in every way." . . . Those are typical expressions from "Caterpillar" Diesel owners. Some of them bought on confidence in "Caterpillar" superiority—some on study of "Caterpillar" design and construction—now they have the proof of performance. Study the "Caterpillar" Diesel, or talk to users—either way you'll come to the conclusion that the "Caterpillar" Diesel is the surest, safest investment in power equipment. Caterpillar Tractor Co., Peoria, Illinois, U. S. A.

◀ Mr. R. G. Warren, Supervisor, of Hampton, N. Y., says: "The starting system can't be beat—this system (gasoline starting engine) does away with costly up-keep of batteries and is always a sure starter."

AMERICA GOES DIESEL
MANUFACTURERS RECORD FOR

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**AUGUST
1934**

Volume CIII No. 8

MANUFACTURERS RECORD

Devoted to the Upbuilding of the
Nation Through the Development
of the South and Southwest as the
Nation's Greatest Material Asset

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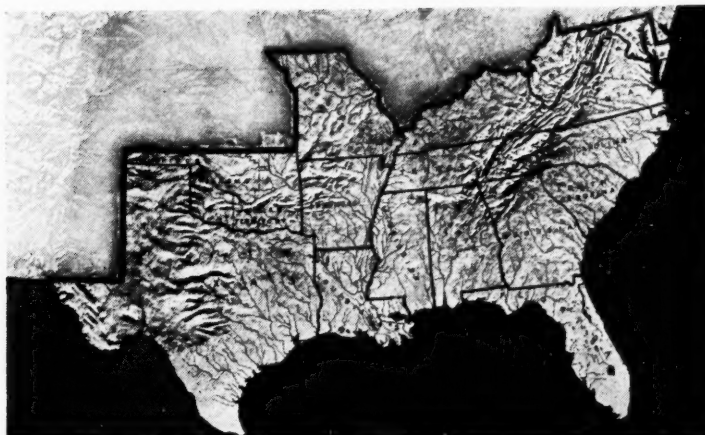
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BLUE BOOK OF SOUTHERN PROGRESS**



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AUGUST NINETEEN THIRTY-FOUR



The South has 31.8 Per Cent of the Land Area and 33.4 Per Cent of the
Population of the United States

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ZINC CHLORIDE treated wood is rot-proof, termite-resistant and fire-retarding. Its long life, economy and other advantages suggest its use wherever clean enduring structurals or other timbers are desired.

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avoidable waste must be prevented and every possible saving made. No stronger argument can be made for the Zinc Chloride treatment of wood than its outstanding *economy*. Seventy-five years of experience and countless actual comparisons prove that Zinc Chloride-treated wood prevents decay, eliminates many costly replacements, and reduces maintenance expense, *at very little cost*. It is also clean and odorless.

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LONGER**

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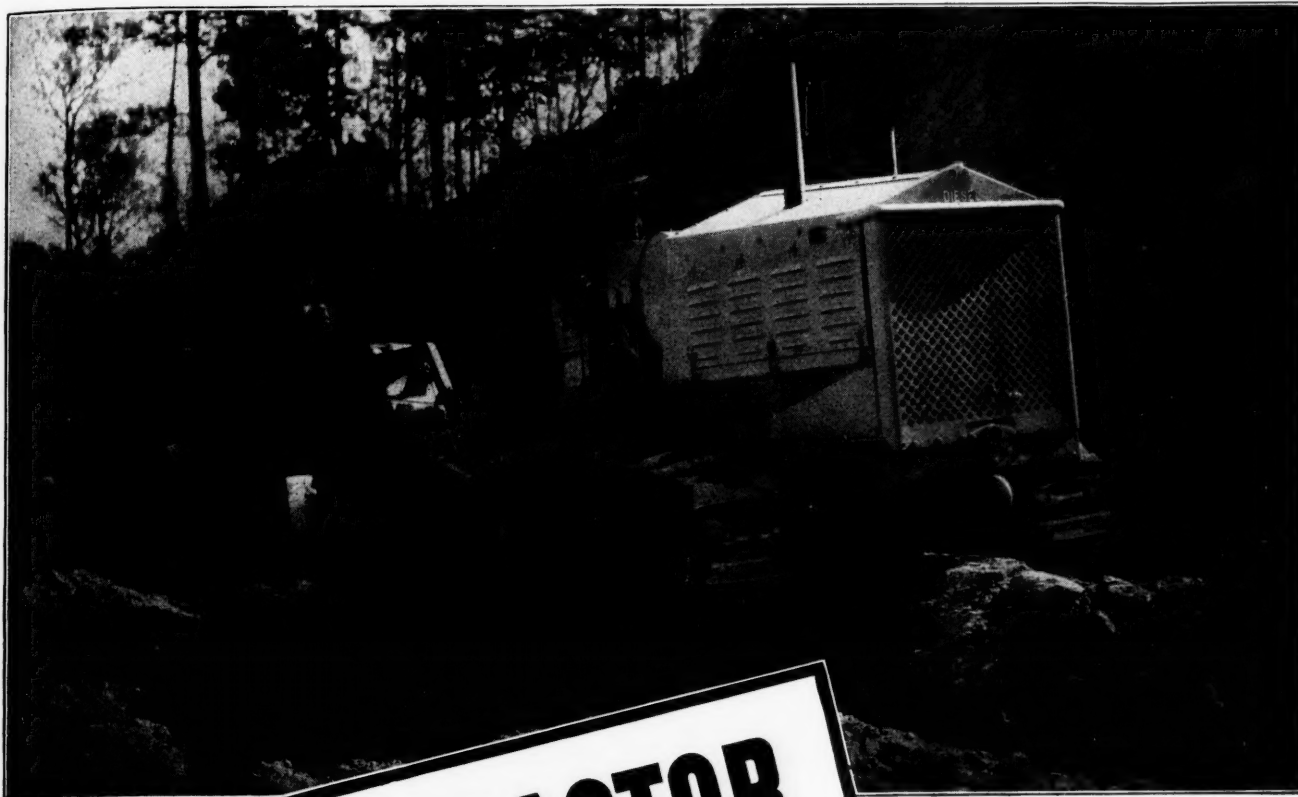
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MANUFACTURERS RECORD FOR

Diesel or Gas for Power, but . . .



It's the **TRACTOR**
THAT DOES THE JOB!

● A power plant in a show window is as useless as fuel without an engine. Not until it is installed in an operating unit can power do useful work. The Cletrac "80" Crawler Tractor offers greatest effective use of either gasoline or Diesel power. It demonstrates clearly that emphasis on the power plant alone draws a poor picture of a tractor's efficiency.

● The "80" is the most powerful automotive unit made—regardless of which power plant is chosen. The power of the complete unit lies in its engine *plus* the engineering principles which put it to work.

● Cletrac's strong points—features found in no other crawler tractor—can be clearly recognized as a guarantee of years of satisfactory performance. Send the coupon for a complete description.

POWERFUL FEATURES

1. Controlled differential steering for power on both tracks while turning. Simple two-lever control.
2. Centralized continuous lubrication to all track frame bearings.
3. Rugged track frame shaft supports loads independent of final drive. No pulling strains from draw-bar loads on transmission case.
4. One-piece tubular track frame carries track rollers, encloses and protects buffer spring and lubrication system.

26 Features in All

All the features of Cletrac construction, taken together, tell a powerful story. They show how these tractors endure the strains of rough jobs where it is the last ounce of power that gets results. Send the coupon for fully illustrated description.

The Austin-Western Road Machinery Co.

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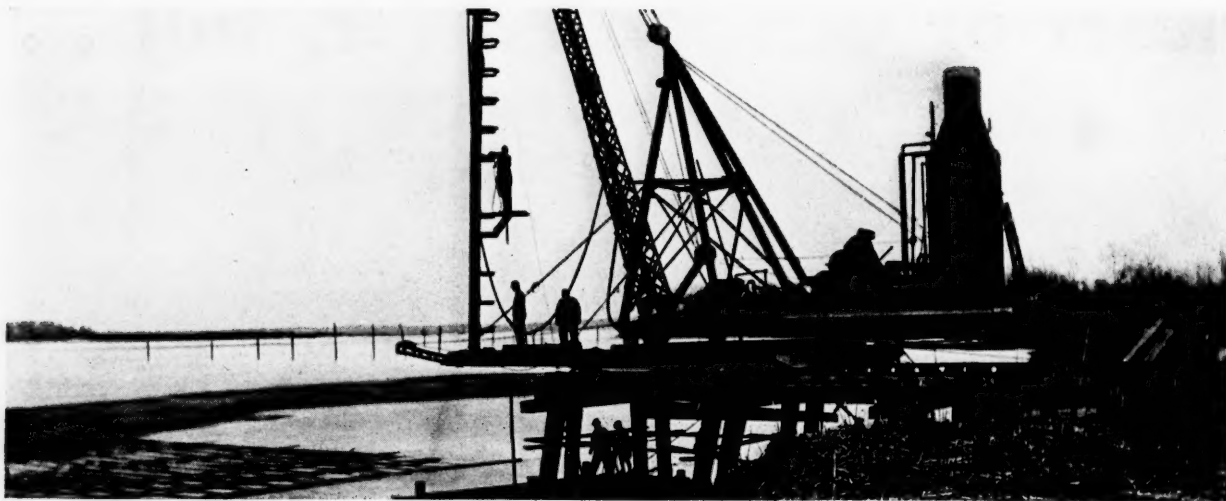
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Please send full details of Cletrac
Crawler Tractors. ☐ Gas Powered.
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WAGONS



Cletrac Tractors
Sold and serviced in
this territory
by Austin-Western



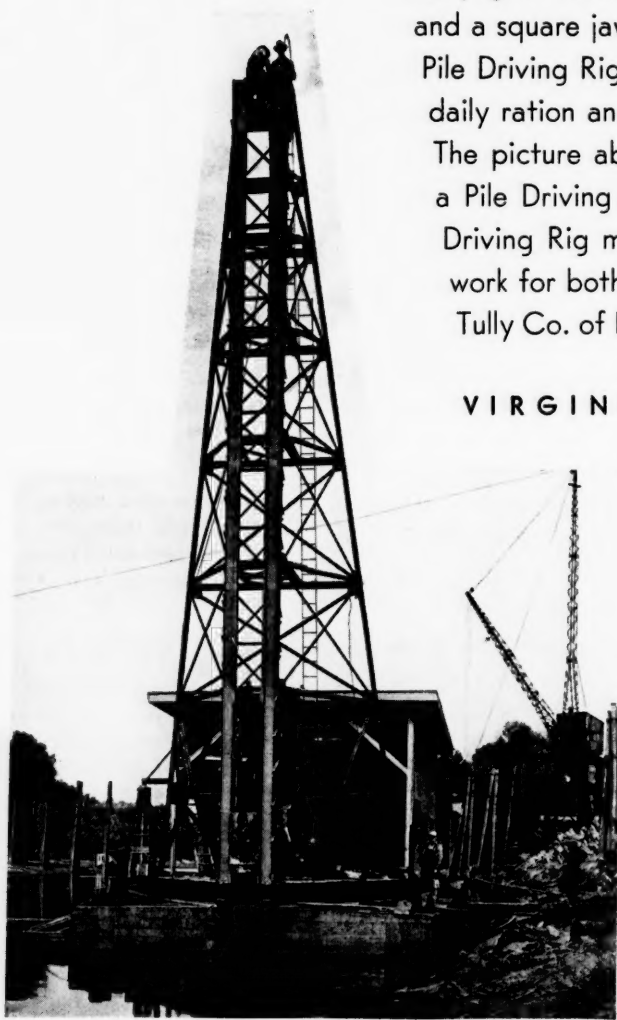
Working on "Ol' Man River"

All is not romance and glamour on the "River". There are many grim realities which must be met with a firm hand and a square jaw.

Pile Driving Rigs and Derricks go down to hard-pan as a daily ration and steel again argues its case successfully. The picture above shows a Mississippi River scene and a Pile Driving Derrick, Revolving Type. Below is a Pile Driving Rig mounted on a barge. We built the steel-work for both at our Memphis Plant for the Anderson-Tully Co. of Memphis.

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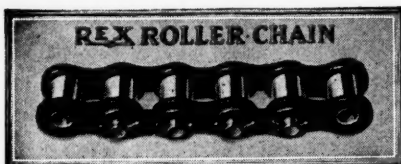
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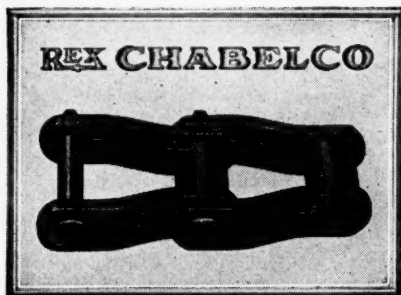
FOR HIGH SPEED—FOR HEAVY DUTY

REX ROLLER CHAINS

—for all high speed drives—
available in all standard sizes, in
single and multiple strands to



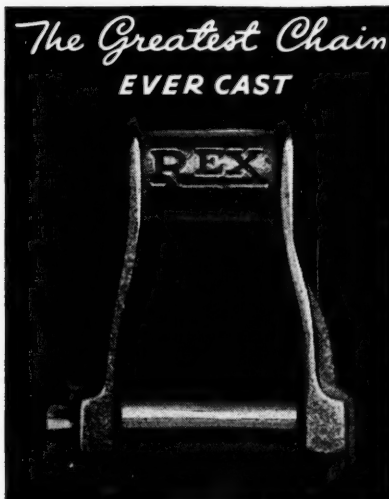
meet the requirements for prac-
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duplicate machinery drive



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An all steel roller chain for all
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unit link principle by which the
accurately made and machined
parts of this chain are assembled
makes it particularly efficient for
severe service. Also made in long
pitch conveyor sizes up to any
practicable strength.

REX Z METAL CHAIN



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Rex Z-Metal Chain, a chain cast
in all malleable patterns, is ap-
proximately 30% stronger than
the best malleable iron of the
same number and is much more
resistant to corrosion, abrasion
and pounding. It finds a wide
variety of uses in both plants
and machine assemblies. Where
trouble is met with malleable
chains it is frequently the answer
—at low cost . . .

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"Now I know"

SAID MR. L. COLUCCIO



Early in 1932, Mr. Coluccio signed the order for his first Allis-Chalmers Model "L" Tractor. After two years of successful operation, he has ordered two more "L's." "Now I know what the Model 'L's' will

do," Mr. Coluccio said. He was working on a large project, operating a scraper on a yard. Coluccio is a local official (left) recently



A Two to One Slope

The operator said he wouldn't have attempted to work on this slope with any other grader. It's a two to one slope on a fill . . . but the "L" and No. 14 Power Controlled Leaning Frame Grader do the trick. Why? Because the No. 14 is the only grader with a leaning frame—which permits the balancing of weight for efficient work at difficult angles.



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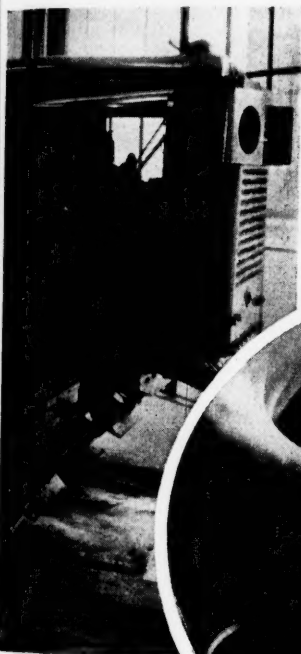
Coluccio
for his
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L's' will

do," he said. "They are working beautifully . . . operating 12-yard carryall scrapers . . . moving big yardages." (Below) Mr. Coluccio signing the original order in 1932. (At left) Two Model "L's" recently delivered.

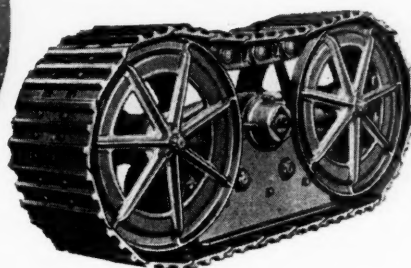


Tough Work? SURE!

But not for an A-C tractor. The "L" was the first tractor built with two speeds in reverse—a definite aid to bulldozing work. A contractor can't meet competition in bidding with old, obsolete equipment.



A "Real" Wagon Track...



Yes Sir, the operator is smiling! Those A-C Tracks pull easier and last longer. Just let them prove it on your job. Available with A-C Wagons . . . or for replacement on all makes of wagons.

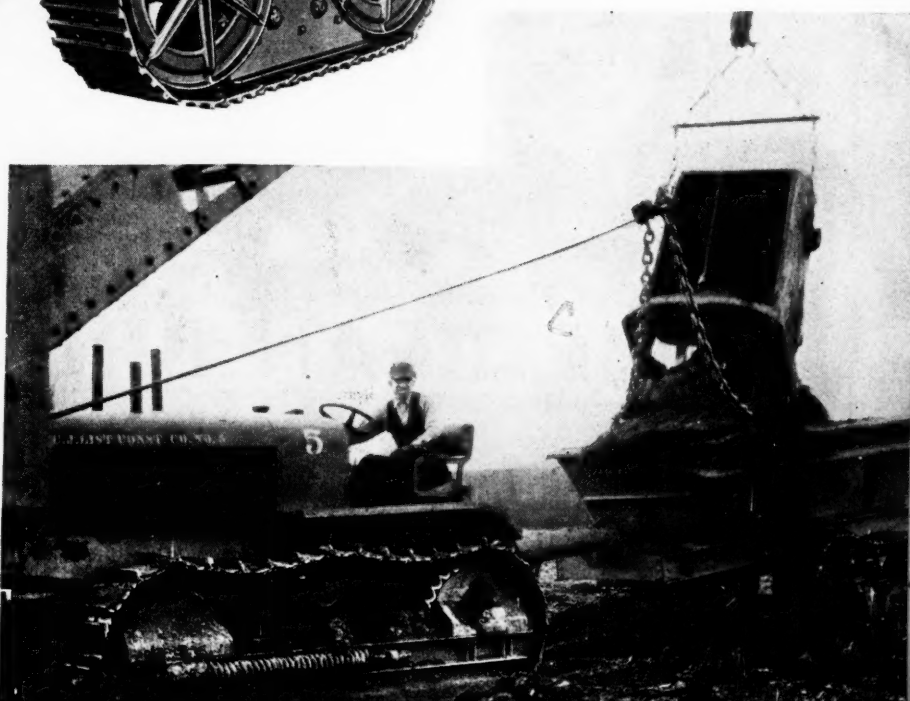
Inserted Valve Seats

This is one of the many mechanical features of A-C tractors which appeal to Mr. Coluccio and other owners. Inserted valve seats save fuel, save valve grinding, save money.

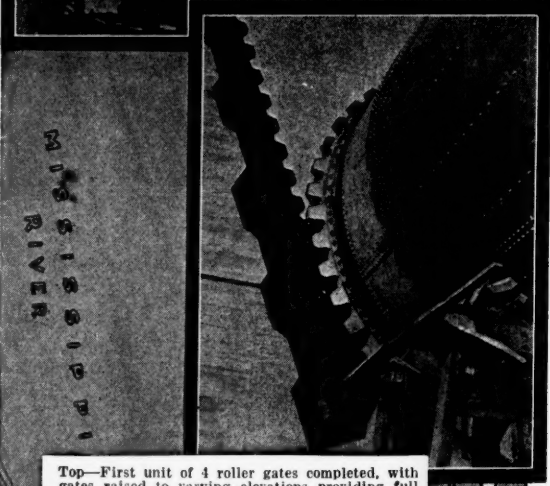
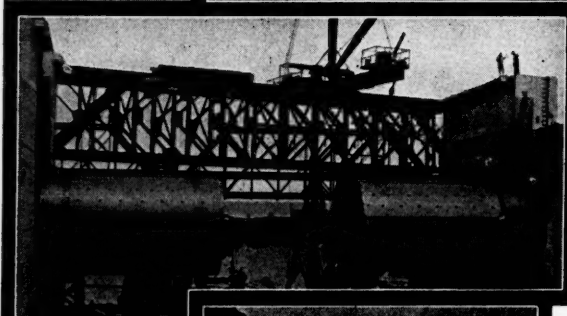
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UNDIVIDED RESPONSIBILITY . . . It is to your advantage to buy your tractors and blade graders . . . tractors and wagons . . . tractors and elevating graders . . . patrol graders . . . power units . . . and other dirt moving equipment . . . from one source. Allis-Chalmers tractors, graders and wagons are built in several sizes . . . and work most efficiently with each other. Allis-Chalmers dealers can furnish complete equipment for earth moving operations.

ALLIS-CHALMERS

TRACTOR DIVISION—MILWAUKEE, U.S.A.



A "ROLLER-LIFT" DAM FOR FULL BLOCKADE OR REGULATED FLOW



Top—First unit of 4 roller gates completed, with gates raised to varying elevations providing full unobstructed flow.

Center—Erecting one of the roller gates with the 60-ton erection derrick supported on top deck of service bridge.

Bottom—End view of gate with drum rack meshing into inclined track rack set in pier niche. Rotating the cylinder, by motor power, raises or lowers gate to any desired position.

THE largest roller-gate installation ever made, in total length and in number of gates, is "Dam 15" across the Mississippi at Rock Island, Illinois. Each of the eleven gates of this extraordinary structure is about 109 feet long, over all, and gives a clear opening of 100 feet between piers. Each of nine gates has a damming height of 26 feet, while the two end ones, forming the sluiceways, are not quite 22 feet high.

Each gate is a riveted steel cylinder with a permanently attached lip or apron, which when resting on the sill-slab provides an effective seal and also adds to the damming height of the cylinder. The larger cylinders have, in fact, a diameter of $19\frac{1}{3}$ feet and the end ones a diameter just over 16 feet. It will be seen, therefore, that the apron contributes to the damming height something over $6\frac{1}{2}$ feet in the one case and $5\frac{1}{2}$ in the other. Any gate can be raised and lowered independently of the others by rotating the cylinder, each end of which is provided with a drum rack to mesh with the teeth of an inclined track rack set in niches at the piers.

For maintenance, a steel service bridge extends the full length of the dam. It carries on its top deck a locomotive crane for general service use and on its bottom-chord deck a traveling crane for handling stoplogs. Eight such stoplogs, each a steel truss 106 feet long, $11\frac{1}{2}$ feet deep, and about $3\frac{1}{2}$ feet high, when laid flat with ends engaging vertical slots at the piers, form the upstream bulkhead for unwatering any gate that needs attention.

Dam 15 was built under immediate direction of U. S. Army Engineers. General Contractors: The S. A. Healy Co., Chicago, Ill. Contractors for the roller gates: S. Morgan Smith Co., York, Pa. All structural steel except end sections of roller gates was fabricated, and the roller gates, service bridges, and stoplogs erected throughout, by American Bridge Company.

AMERICAN BRIDGE COMPANY

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

General Office: Frick Building, Pittsburgh, Pennsylvania

Contracting Offices: Baltimore, Boston, Chicago, Cincinnati, Cleveland, Denver, Detroit, Duluth, Minneapolis, New York, Philadelphia, Pittsburgh, St. Louis, Salt Lake City.



Pacific Coast Divisions: Columbia Steel Company, San Francisco, California; American Bridge Company, Portland, Oregon; American Bridge Company, Seattle, Washington; American Bridge Company, Tacoma, Washington; American Bridge Company, Vancouver, British Columbia, Canada.

• Manufacturers Record •

ARE WE PAYING TOO HIGH A PRICE?

THE San Francisco strike was costly, as are all strikes, but the lessons learned should be valuable. Organized labor disclaimed responsibility, saying it was a local affair and without national significance. The people of the country will not agree either with the denial or the opinion.

The facts are, 100,000 union members held up a city and attempted to usurp its government, put an embargo on its food supplies, blocked its highways and endangered the lives of its citizens. To claim that such a massed menace is without national significance is absurd. An outbreak of bubonic plague in any American city would be a matter of grave significance to the nation.

General Johnson described it accurately when he declared that what the strikers were attempting was "civil war" and a war in any city or State of ours becomes immediately a matter of grave national significance.

The prompt resentment of San Francisco people showed that America will not temporize with attempts to overthrow its institutions, but what is the explanation of similar outbreaks aimed to tie up the whole West Coast, and of strikes in nearly every State? Are they of "no national significance?"

Organized labor may have permitted radicalism to have too large a voice in its affairs, but whose is the responsibility? Are merit and craftsmanship the requirements a worker must meet to become a member of a national union, or has the appeal of numbers and their political significance caused the leaders of organized labor to conduct a feverish campaign for larger membership and to forget the time when a union card was a mark of excellence in a man's chosen field, only obtainable after years of hard work?

It is not surprising that employers have resisted repeated attempts by labor leaders and members of Congress to fasten upon industry a labor domination without legal responsibility which has failed too often

to insure the character of work of its members or their responsibility to the State.

When it was claimed, after the passage of the NIRA and its famous section 7A, that labor had received "a new charter of rights" and proselytists were rushed to all sections to add new members to the rolls, the belief was encouraged that collective bargaining could be conducted only through organized labor, and this had the sympathy of some of the members of the National Labor Board. Whoever was responsible for inserting in the Act section 7A, which receives a different interpretation every time it is brought up, evidently succeeded, whether it was so intended or not, in promoting dissension in the relations between employer and employee. It has proven a blockade in the road to recovery.

Before the Recovery Act was passed, the relations between employers and workmen had been more harmonious than for a long time. Plants everywhere were being kept open to provide a living for employees, although profits had vanished. Men appreciated it and showed their appreciation by accepting cuts in pay, knowing the difficulties their employers faced. When there was written into section 7A the requirement that employers should not "coerce or intimidate" it was plain to whom the author was catering, as there was no such stipulation for offending employees who have shown at San Francisco how far they may go.

And the costs in money and delays caused by country-wide strikes are not easy to compute. Hopewell, Va., is counting the cost of a strike at a rayon yarn plant, employing 1850 men. Following a raid on the plant by strikers, the owners (the third largest producers of rayon yarn in the country) have announced—"the plant has operated continuously night and day for thirteen years, and has been kept in operation during the past four years despite heavy losses due to general business conditions." The plant was invaded resulting "in the damage of thousands of dollars worth of equipment and materials." As a result of this damage and the fact it would take three months to place the plant in full operation again, the announcement reads—"our stockholders'

interests would not permit the reopening of the plant. * * * We have, through a sincere desire to keep our people employed, while endeavoring to eliminate the disadvantages of production costs, maintained continuous employment and paid wages in excess of several millions annually, in spite of large losses since 1929. * * * We had hoped to keep the plant running until business improved, or more economical methods of operation were proven and introduced. Unfortunately, the 'force-out' mentioned above prevented us from carrying out our program."

The question of the cost of the experiments of the New Deal was asked by the President in his radio address:

"Have you, as an individual, paid too high a price for these gains?"

Those who had their gold called in and were told that the government's promise to pay obligations in gold would not be fulfilled, are not likely to feel they have gained greatly, but on the contrary they are more likely to believe the price is high. Holders of farm mortgages will think the price is high and will wonder where is the gain, now that the Frazier Lemke bill, granting what amounts to a moratorium on farm debt, has been signed. And these investors cannot be justly classed among the selfish interests whose toes are stepped on.

The question—"have you paid too high a price for these gains?" is not only pertinent, it is the pressing question of the hour.

Those who live wholly in the present may think they have not paid too high a price, but the full price cannot be at once computed. The sums Congress has voted—the greatest sums any peace-time Congress ever voted—are not the limit of the money cost, because we are told while it has cost a lot of money, it will cost a lot more. Taxes which are very high have not reached the limit, but are bound for higher figures.

Not knowing how big the bill will be, the question cannot be answered from a money standpoint, nor whether what appears to be temporary advantages from the huge spending of government money, which is mainly artificial stimulation, will prove of permanent benefit or the reverse.

And there is another kind of price besides money, which we may have to pay. That is the possible effect of the New Deal on the permanent upbuilding of the country in years to come. The future will have to be waited for to decide it, but one may ask is the control represented by the Securities Act, which has frightened investors and deterred industry from asking for new loans for expansion, a part of the price that will prove too high? Is the domination of union labor, which has been encouraged at Washington, a part of the price that employers in the future will have to pay, and will the answer be regarded a gain by those responsible to a large degree for the wealth created in this country through industry?

The present fear of capital about the future ahead of us is proving costly. It does not know how to estimate the plans for so-called "social management", "the more abundant life" and the entry of government

control into almost every phase of the country's affairs.

The control over the farmer because of the drought will have to be "re-examined" according to the Secretary of Agriculture, although in his opinion control is still needed. Undoubtedly if kept up it will mean control over all crops and their selling prices. What will be the future effect of this and other assumption of bureaucratic power by government?

Sixteen million, or one out of every eight, is the estimate of the number on the dole, and this appears to be a continuing and indeterminate part of the price.

SALES TAX

THE sales tax in North Carolina has been credited with keeping open the public schools and improving the credit of the State. The per capita cost has been about \$2.65 a year, less than one cent a day. It enables every citizen to pay his share, however small, of the cost of government and is more in keeping with the principles of Democracy than any other system of taxation.

Mississippi re-enacted its 2 per cent General Sales Tax early this year. There is less opposition now than there was 18 months ago when a survey of the working of the tax was made by the School of Commerce and Business Administration, University of Mississippi, reports Dean J. W. Bell.

The sales tax in various forms has been in operation for some time in Mississippi, West Virginia, North Carolina, South Carolina, Oklahoma, California, Illinois, Indiana, Iowa and New York. In its practical application no ill effects have been noticeable. It has proven a satisfactory way to raise money for carrying on government, and retail trade has increased despite dire predictions of opponents that it would curtail sales and be detrimental to merchants who have been the most active group in protesting against its adoption. It bears equally on all citizens in proportion to their actual purchases. It is a tax on spending and not on earnings and, therefore, does not penalize the thrifty.

Opponents of the sales tax say it is a burden at a time of depression and unemployment. Politicians, especially, look upon it as such because it is a direct tax. They know that the rank and file of taxpayers cannot be as easily persuaded to allow extravagant government expenditures when they realize that they are footing the bill.

What is needed is a revision of the tax systems of the nation, Federal, State and local. There are too many over-lapping and duplicating taxes. There are too many taxing bodies and too many methods of arriving at the amount of tax to be levied. Four basic sources of revenue would suffice. Applying a low rate on a broad base, the sales tax, property tax, income tax and inheritance tax should be ample to support national and local governments. Application of these taxes and methods of assessment of values for property taxes should be uniform in every State so that no one State or section would have an advantage over another.

FACTS OUTWEIGH THEORIES

THE basic assumption of the Administration's new tariff policy is that we must increase our purchases abroad in order to obtain a larger export market. It is contended that certain primary industries, such as cotton, tobacco, grain and meat products, naval stores and sulphur, as well as automobiles, machine tools and some others in manufactured goods, are greatly dependent upon the maintenance of our export trade for their prosperity and the employment of many thousands of workers.

It is not amiss to remember that our exports during the 10-year period ending with 1929, largely financed with money borrowed from us, gave employment only to about 1,000,000 American workers. And yet some free trade advocates would have us believe that the cutting down of these exports (after we stopped lending money abroad) to present world depression volume, is responsible for the 10,000,000 now unemployed in the United States. A high Government official recently summarized the Administration's policy with respect to foreign trade "as its purpose to maintain those export lines which are of strategic importance in our national economy; and in order to do this a way must be found to permit, *without injury to our domestic producers* (italics ours) a return flow of imports."

That is the rub. The difficulty in putting the reciprocal foreign trade theory into practice is to determine what types of foreign commodities we can absorb without doing damage to our own industries. How can we increase our purchases from foreign producers without injuring some American producer and his employees to the extent of the sales lost to foreign competition? It is estimated that we will have to increase our imports by \$500,000,000 annually to be of any effect and then there is no certainty that foreigners will return this money in increased purchases of American goods.

Will the American farmers, with their limited protection against cheap foreign labor, agree to a lower tariff on their products? Will the Southern growers of early fruits and vegetables agree to a lower tariff on these commodities so that Mexico and other Latin American countries may increase their sales to us?

As the *Charlotte Observer*, in a recent editorial, asks:

"Remember how the putting of monazite on the free list opened the American market to the cheap-labor-produced commodity from Brazil, killed the industry in the Piedmont section and deprived the farmers of a profitable source of income? And also how the placing of abrasive garnet on the free list closed down a big mining project and destroyed an industry that was bringing thousands of dollars into the State? Well, something even more serious is now in prospect and that is the placing of chinaware on the free list. * * *

"What would it mean to the industry in North Carolina? Few people know that more than 60

per cent of the feldspar and practically all of the primary china clay mined in this country is produced in a few North Carolina mountain counties. These mining activities and the plants operated adjacent to them for preparing the materials employ upwards of 1,000 people. Some of the mountain communities are based entirely on these industries. To put chinaware on the free list would wipe them out and eliminate the means of making a livelihood for over 5,000 North Carolinians.

"While this wiping out of existing industries would be serious, of even greater importance in the future would be the elimination of any chance of developing the pottery business on a large scale in the Carolina and Tennessee mountains adjacent to the vast deposits of feldspar, china clay and flint that occur there. With chinaware on the free list American wages are too high to enable potters in this country to compete with European producers in our own markets, the world's best in this line."

And these illustrations of injury to established industries could be multiplied almost to the limit of every industry in the United States. They furnish cold facts that outweigh the theory that we can without injury buy more from abroad in order to sell more. There was an increase of 10 per cent in the volume or quantity of imports during the last fiscal year, but the volume of exports remained practically the same. Cotton exports declined 433,000 bales during the first six months of this year compared with the corresponding period of 1933.

The South has developed a great manufacturing industry. The annual value of its manufacture is, under depression conditions, about \$6,000,000,000, which is more than double the value of its agricultural production. Its vast raw material resources are only partially utilized. Its potentialities for industrial expansion are limitless. The quickest way to kill its opportunities for advancing industrially is to give cheap foreign goods a free entry into American markets.

We can produce all the woodpulp and paper we need. Our imports of pulpwood, woodpulp and paper for the past four years of the depression averaged \$186,000,000 annually.

We can produce all of the fertilizer required. We can produce every essential commodity with the exception of certain tropical products and a few specialties or luxuries not made in this country. The duty of Americans is to build up American industries and create employment for Americans, not to act as agents for foreign producers.

We can sell to foreign countries so long as we produce the things they need better than they can make them and at an advantageous competitive price. If we doubled and trebled our purchases from foreigners and could not offer them competitive priced goods of better quality we could not hope to increase our exports. We have arbitrarily raised the price of cotton, tobacco, naval stores and many other products, and are experiencing an increasing resistance in our foreign markets as our prices have risen. Foreign cotton manufacturers are turning to the cheaper cotton of Brazil and other countries.

SOUTHERN CONSTRUCTION PROJECTS INCREASE 60 PER CENT IN NUMBER

**\$47,000,000 Spent On New
Industrial Enterprises and Ex-
pansion Programs of Estab-
lished Concerns During First
Seven Months 1934**

SOUTHERN CONSTRUCTION ACTIVITY				
	July, 1934	July, 1934	January-July, 1934	January-July, 1934
	Contracts	Contracts	Contracts	Contracts
	Awarded	to be	Awarded	to be
GENERAL BUILDING				
Apartment and Hotels	\$254,000	\$1,205,000	\$1,728,000	\$9,162,000
Association and Fraternal	250,000	415,000	630,000
Bank and Office	217,000	1,425,000	1,943,000	3,613,000
Churches	165,000	440,000	883,000	2,178,000
Dwellings	1,173,000	1,859,000	11,470,000	19,772,000
Stores	424,000	585,000	2,828,000	4,050,000
	\$2,483,000	5,514,000	\$19,267,000	\$39,403,000
PUBLIC BUILDINGS				
City, County, Government and State	5,044,000	12,302,000	44,225,000	52,841,000
Schools	1,676,000	9,773,000	18,384,000	55,295,000
	\$6,720,000	\$22,075,000	\$62,609,000	\$108,136,000
ROADS, STREETS AND PAVING				
	\$13,898,000	\$10,653,000	\$125,344,000	\$84,751,000
INDUSTRIAL AND ENGINEERING PROJECTS				
Dredging	1,126,000	12,644,000	10,285,000	42,760,000
Filling Stations, Garages, etc.	442,000	130,000	1,736,000	2,556,000
Industrial Plants	11,698,000	25,474,000	47,332,000	139,088,000
Levees, Revetments, Dikes, etc.	1,198,000	1,008,000	13,630,000	13,291,000
Sewers, Drainage and Waterworks	3,486,000	22,007,000	22,827,000	88,374,000
	\$17,950,000	\$61,263,000	\$95,810,000	\$286,069,000
TOTAL	\$41,051,000	\$99,505,000	\$303,030,000	\$518,359,000

THE number of new construction projects started in the sixteen Southern States, as reported by the MANUFACTURERS RECORD Daily Construction Bulletin, has increased from a weekly average of 150 during the latter part of 1933 and early 1934, to 250 currently.

All construction in the South amounted to more than \$303,000,000 during the first seven months of this year. Of this, construction for new industrial plants and for expansions to established concerns totaled \$47,000,000 in contracts awarded.

Contracts awarded for all types of work during July amounted to \$41,051,000, a gain of 50 per cent over June and 75 per cent over July, 1933. General private building contracts totaled \$2,483,000; public buildings \$6,720,000; roads, streets and paving \$13,898,000; and industrial and engineering projects \$17,950,000.

Most significant are the figures for industrial plant construction for the month of July alone, which include more than \$11,500,000 in contracts let and more than \$25,000,000 in work proposed. The former represents nearly one-quarter of the entire investment in new plant facilities made in the first seven months of this year.

It is important to note the character of this work and the many different lines which are active, as revealed by the following summary of outstanding projects for the month of July alone:

Contracts Awarded

Ala., Mobile —Continental Paper & Bag Co.—Plant Expansion, Bag Manufacturer.....	\$100,000
Fla., Jacksonville —John H. Swisher & Son—Plant Expansion Cigar manufacturer—National Cigar Machinery, Co., contr.....	100,000
La., Baton Rouge —Solvay Process Corp.—New Plant—Chemical plant—United Engineers & Constructors, contrs.	7,500,000
Md., Luke —West Virginia Pump & Paper Co.—Plant expansion, Paper manufacturers, Riley Stoker Company, contr.....	150,000
Mo., Kansas City —M. K. Goetz Brewing Co.—Plant Improvements Distillery, Lonsdale Bros., contrs.	450,000
N. C., Durham —Liggett & Myers Tobacco Co.—	

New Tobacco storage warehouse—William Muirhead, contr.	\$200,000
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Proposed Construction

Ala., Birmingham —Birmingham Electric Company—Substitution of buses for street cars on 9 lines	500,000
Miss., Eupora —Southern States Sugar Refining Co., New Plant to manufacture sugar	250,000
Mo., St. Louis —Anheuser-Busch Brewing Co.—Plant Expansion and repairs—distillery.....	1,050,000
N. C., Greensboro —Vogel & Watkins—New Plant Textile Mill	100,000
N. C., Lincolnton —Piedmont Municipal Electric Company, New steam electric light and power plant	6,500,000
Tex., Gladewater —Pelican Refinery Rebuilding burned refinery.....	150,000
Tex., Longview —Southwestern Bell Telephone Company, Plant expansion.....	265,000
Va., Richmond —Virginia Airship Company, Inc.—New Plant Manufacturers of lighter than air dirigibles.....	904,000
Va., Roanoke —Appalachian Electric Power Company—New Hydro-Electric Plant.....	10,000,000
W. Va., Wheeling —Hazel-Atlas Glass Company—Plant Addition Glass manufacturers.....	125,000

Water Works

Activity in water works construction is marked. During the first seven months of 1934 projects involving more than \$22,000,000 were let to contract. In July alone, contracts awarded were \$3,400,000 and proposed \$22,000,000.

A recent typical six-day period in July, 1934, makes an interesting comparison with the month of July, 1929. In this six-day period 86 separate projects in different stages of construction were reported in the Daily Construction Bulletin as compared to an average of 22 for each six-day period, in the month of July, 1929.

The drought has focused attention on the need for more adequate water works facilities in all parts of the country and should serve to materially stimulate the activity already seen in this field.

The following water works projects, proposed and started, are outstanding among July reports:

Awarded

Ark., Carlisle —Complete water works system, D. Hogan, Little Rock, contr.....	\$51,000
Ark., Johnson City —Well for Water Works System, Carlos Well Works, Memphis, Tenn., contr.	39,000
Ark., Strong —Water Works System, C. C. McEachin, Little Rock, Ark., contr.....	141,000
D. C., Washington —30-inch water main across Anacostia River, Interstate Engineering Company, Inc., Baltimore, Md., contr.....	183,000
Fla., Pahokee —Water Works System, Smith Hendricks Company, Jacksonville, Fla., contr....	75,000
Fla., Miami —Replace water main from Hialeah Pumping Sta., to Miami—Everglades Construction Co., Hintz Construction Co., North American Construction Co., contrs.	560,000
Ky., Birchville —Water Works and distribution system, T. C. Brook and Company, Detroit, Mich., contr.	47,000
N. C., Rocky Mount —Water Works System, (Lynchburg Pipe & Foundry Co., Lynchburg, Va., contrs. for 20-in. pipe with fittings)....	300,000
Tex., Pittsburgh —Pipe, gate valves, hydrants and fittings, W. G. Cullum, Dallas, Tex., contr....	99,000

Proposed

Ala., Fair Hope —City, Water Works and sewer system improvements	160,000
Ark., Fort Smith —City Works Project W. R. Holloway, engineer.....	1,650,000
D. C., Washington —District Commissioner Sewerage disposal plant	8,000,000
Ga., Union Plant —Water Works System, J. B. McCrary, Engineer	43,900
Miss., Laurel —Board of Commissioners Power plant and distribution system and water works	563,000
Mo., Carthage —City Water softening plant—Black & Veatch, engineer	100,000
N. C., Raleigh —City 2 sewerage treatment plants and sewer system	600,000
Okla., Cleveland —City Water Works, W. R. Holway, engineer.....	164,000
Okla., Ponca City —City Water Works, W. R. Holway, engineer.....	560,000
Tex., Fairfield —City Water Works System	123,000
Tex., San Juan —Hidalgo Co. Water Works Improvement District No. 2, Concrete pipe concrete line distributing system, drainage, etc...	1,769,000

General Building

In the field of general building, awards for the first seven months of 1934 amounted to \$19,000,000 and for July, \$2,400,000. Proposed work is valued at \$5,500,000 for July alone. Some of the important projects in this classification let to contract and proposed are as follows:

Awarded

Ark., Benton —Arkansas Construction Commission State Hospital for Nervous Diseases.....	\$145,000
D. C., Washington —Hecht Company, escalators Otis Elevator Company, contractor.....	125,000
D. C., Washington —Architect of the Capitol 9 new elevators in Capitol Building and repairs to old equipment, Otis Elevator Company, contr.	150,000
Md., Baltimore —Century-Parkway Corporation Theater air conditioning installation Armo Cooling & Ventilating Company.....	30,000
Md., Baltimore —M. A. Parrish, Warehouse H. K. Beuttner, contr.....	50,000
Md., Baltimore —Stewart & Company Department Store, Air conditioning installation, M. A. Long Co., contr.	30,000
Tex., Galveston —School Board West End Grade School; J. W. Zempter Contracting Co., contr.....	200,000

Proposed

D. C., Washington —Acacia Mutual Life Insurance Company, Home Office Building.....	\$1,000,000
La., New Orleans —Whitney National Bank Building, Air Conditioning system; Leo S. Weil and Walter B. Moses, architects.....	250,000
Tenn., Memphis —William R. Moore Dry Goods Company, Garage and warehouse.....	250,000
Tenn., Knoxville —University of Tennessee New Building; Barber & McMurry, architects	140,000
Tenn., Knoxville —Board of Education Junior High School; Barber & McMurry, archts.	210,000
Tex., Denton —North Texas State Teachers College—Dormitory, dining hall and recreation center; Wyatt C. Hedrick, archt.....	210,000
Tex., San Antonio —Treasury Department Federal building; Ralph H. Cameron and Paul P. Cret, archts.	1,125,000
Tex., Austin —University of Texas Men's dormitories	210,000
Tex., Austin —University of Texas Women's dormitories	198,000
Tex., Kingsville —Texas College of Arts & Industry—Dormitories	300,000
Tex., Austin —University of Texas Main building and library extension; Paul P. Cret and Robert A. White, archts.....	1,800,000
Tex., Dallas —Adolphus Hotel Modernization	1,000,000
Va., General Hospital Board Sprinkler equipment for various state hospitals	119,000
W. Va., Charleston —Treasury Dept. Post Office and Court House; W. A. Meanor, archt.	625,000

Bridges

Outstanding in July in highway and bridge construction is the Bath Street Viaduct in Baltimore, Md., for which bids will be opened August 10. The estimated cost of this project is \$1,170,000.

In Missouri, a 2,200-foot bridge is proposed over Lake of Ozarks at a cost of \$666,000; Sverdrup and Parcel are the engineers.

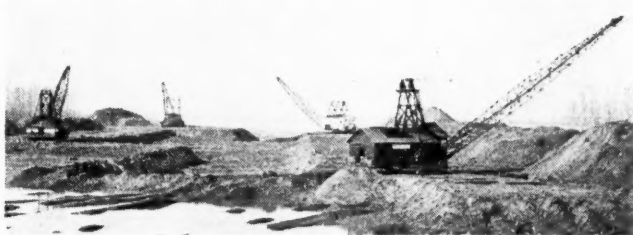
A toll bridge is proposed for Washington, Mo., at a cost of \$428,000; Sverdrup and Parcel, engineers.

The United States Engineers Office at Conway, S. C., has awarded the contract for a bridge over inland waterway to Tidewater Construction Corporation at \$103,000.

Railroad Extension

At Meridian, Miss., the Meridian & Bigbee River Railway is building a new line for which MacDonald Contracting Company of Atlanta has the contract at an estimated cost of \$500,000.

This increase in Southern construction activity, of which the foregoing examples are outstanding projects for one month, give definite encouragement, but are particularly significant of the increased number of opportunities for business in the Southern States, in the continuing development of this section's unlimited natural resources, and a fuller use of convenient and economical transportation and power facilities, which, with favorable climate and native labor, make the South an industrial center of first importance.





The McLeod Infirmary
Florence, S. C.



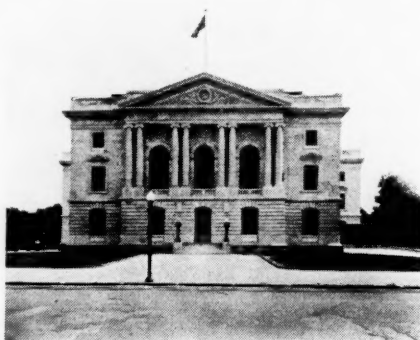
Post Office and Court House
Jackson, Miss.

NEW BUILDINGS FOR THE SOUTH

FEDERAL appropriations for public buildings and PWA loans have resulted in many fine structures being erected in the South in recent months. Typical of some of this work are the \$1,000,000 Nashville (Tenn.) Post Office now under construction, the \$1,000,000 Post Office and Court House completed at Jackson, Miss., and the McLeod Infirmary, under way at Florence, S. C., which was made possible by a \$300,000 PWA loan.

Construction features of the new Nashville Post Office are reported by the general contractor, Frank Messer & Sons, Inc., Cincinnati, to include a 23-foot difference in elevation between far corners of the building. Fifty per cent of the general excavation was in hard, dense limestone, which was completed without any damage to the surrounding property. The building has unusually high stories, the basement being 13 feet, the first story 24 feet, and the second

story 22 feet. The basement on the west elevation is four feet above grade, giving a building height of 70 feet. Cold spring pink granite is used up to the



U. S. Courthouse and Post Office
Macon, Ga.

first floor line, and Georgia white marble above, with a black granite coping. There is a large amount of approach work, all walls being faced with granite. Marr & Holman, Nashville, are the architects.

Among the principal sub-contractors are:

Excavation: Carrier Wrecking & Excavating Co., Flint, Mich.
Structural steel: Nashville Bridge Co., Nashville, Tenn.
Reinforcing steel: Wilson-Weesner-Wilkinson Co., Nashville, Tenn.
Portland cement: Hermitage Portland Cement Co., Nashville, Tenn.
Granite: Cold Spring Granite Co., Cold Spring, Minn.
Marble: Georgia Marble Co., Tate, Ga.
Sash: Campbell Metal Window Corp., New York City.
Ornamental iron: Birmingham Ornamental Iron Co., Birmingham, Ala.
Special metals: The John Harsch Bronze & Foundry Co., Cleveland, O.
Waterproofing: Western Waterproofing Co., St. Louis, Mo.
Hollow metal work: Art Metal Construction Co., Jamestown, N. Y.
Roofing and sheet metal: Schreiber Bros. Inc., Detroit, Mich.
Glazing: Pittsburgh Plate Glass Co., Nashville, Tenn.
Millwork: Anderson Mfg. Co., Louisville, Ky.
Wood floors: W. Morton Northen, Inc., Richmond, Va.
Kalamein work: Richmond Fireproof Door Co., Richmond, Ind.
Hardware: The Yale & Towne Mfg. Co., Stamford, Conn.
Painting: National Decorating Service Co., Chicago, Ill.
Plumbing, heating and ventilating: E. M. Carmell Co., Columbus, O.
Wiring: Meyer Electric Co., Inc., Gary, Ind.
Special lighting fixtures: Benson Brass & Chandelier Co., Kansas City, Mo.

The United States Post Office and Court House at Jackson, Miss., is of granite and limestone construction and

Post Office Under Construction
Nashville, Tenn.



Post Office and Court House
Texarkana, Tex., Ark.



was erected by The Penker Construction Co., Cincinnati. Hull & Malvaney of Jackson were the architects.

Sub-contractors included:

Structural steel: Ingalls Iron Works Company, Birmingham, Ala.
Reinforced concrete: Southern G-F Company, Atlanta, Ga.
Granite: Stone Mountain Granite Co., Stone Mountain, Ga.
Limestone: Shawnee Stone Company, Bloomington, Ind.
Aluminum windows: Campbell Metal Window Corp., Baltimore, Md.
Miscellaneous iron: Decatur Iron & Steel Co., Decatur, Ala.
Millwork: Baldwin Company, Cincinnati, Ohio.
Glass: Ohio Plate Glass Company, Toledo, Ohio.
Electrical: Dix-Kelly Company, Ft. Wayne, Ind.
Plumbing and heating: Veach & Ruhlman, Lexington, Ky.

The McLeod Infirmary at Florence, S. C., construction of which was made possible through a \$300,000 PWA loan, is a 7-story fireproof addition to the general hospital group founded by Dr. F. H. McLeod in 1906. This building now under construction is of reinforced concrete frame, steel joists and concrete floor slabs. All of the floors are finished in terrazzo and tile. It will have a capacity of 120 beds, mostly in private rooms. Lafaye and Lafaye of Columbia, S. C., and F. V. Hopkins of Florence, are the architects. The Fiske-Carter Construction Company, Greenville, is the contractor.

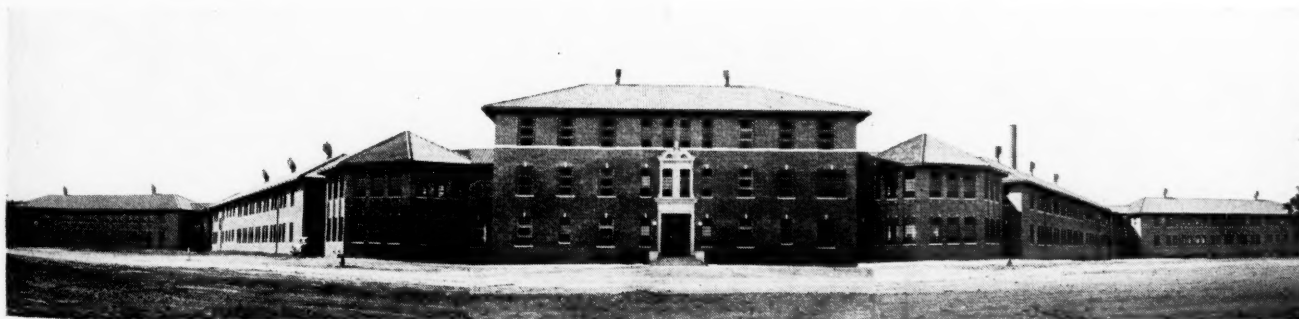
The sub-contractors include:

Structural steel: Virginia Bridge & Iron Co., Birmingham.
Reinforcing steel, lathing: Kalman Steel Corporation, Bethlehem, Pa.
Roofing and sheet metal: A. A. Roofing Co., Columbia, S. C.
Tile, marble: Campbell Tile Co., Greenville, S. C.

A \$400,000 hospital for negro insane was recently completed near Taft, Okla., for the Oklahoma State Board of Public Affairs, after plans and specifications by Layton, Hicks & Forsyth, architects of Oklahoma City. Bailey-Burns Construction Co., Norman, Okla., was the general contractor.

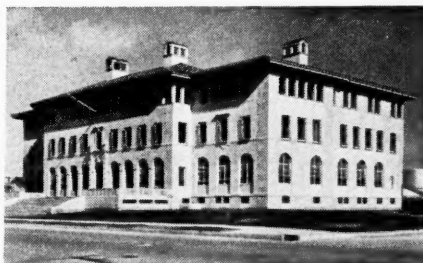
The building, which is situated on a tract of about 350 acres of good farming and pasture land, the intention being to make the institution self-supporting by providing suitable and healthful occupations for such of the patients as are able to do farm work, is of the pavilion type. The administrative block and dining-room is located in the

State Hospital
Near Taft, Okla.



center, and connecting wards are separated by octagonal dayrooms on either side. In the administrative block are offices of the resident physicians, attendants quarters, surgery and operating rooms. The diningroom wing contains the main dining-room for patients, two staff dining-rooms, kitchen, bakery and cold storage rooms. A centrally located laundry is a feature.

The nine wards are planned so that each is a separate self-contained unit. The building is of fireproof construction, with reinforced concrete frame, brick walls, clay tile partitions, variegated red tile roof and stone trim. Floors are terrazzo, and wainscots of glazed tile. Steel windows of the detention type, glazed with polished wireglass are used. Sound deadening treatment in the principal rooms and wards reduces disturbing noises to a minimum. A vacuum vapor type heating system, with concealed pro-



Immigration Station
Galveston, Tex.

tected radiators, is used.

The hospital is designed to care for 800 patients.

Alterations and additions to the United States Post Office, Macon, Ga., was so skillfully performed that the old building, erected in 1905, blends with the new and modern addition. Georgia marble and Georgia granite are used on the exterior of the building.

H. B. Nelson Construction Co., of Atlanta, was the general contractor. A. A. Munsell, being the construction of superintendent. The Georgia Marble Co., of Nelson, supplied the exterior marble, the Bethlehem Fabricators, of Bethlehem, Pa., the structural steel, and the Otis Elevator Co., New York City, the elevators.

James McHugh & Sons, Inc., Chicago, were the general contractors for the

\$375,000 Immigration Station recently completed at Galveston, Texas. Principal subcontractors included:

Creosoted piles: International Creosoting & Constr. Co., Galveston, Texas.
Reinforcing steel: Truscon Steel Co., Youngstown, Ohio.
Cut stone: Fluck Cut Stone Co., Bloomington, Ind.
Structural steel: Petroleum Iron Works, Houston, Texas.
Ornamental and miscellaneous iron: Gandy & Earp, Inc., Decatur, Ill.

Small Saw Mills Produce Half of Southern Pine

THE Southern Pine Association has issued a comprehensive report on the "Administration of the Lumber Code in the Southern Pine Division." It cites the importance of the small mill operator as a production factor. That manufacturing capital, trends in production, supplies of standing timber, and utilization of raw materials in the South are affected directly by the small or portable type of operation is evident from the increasing proportion of the total output produced by these small mill units. In 1919, 33 per cent of the total pine produced was cut by the so-called small mills. In 1924, the proportion had grown to 43 per cent and in 1929 it was found that small saw mills accounted for 53 per cent of the output. Many of these mills were closed down during 1930, 31 and 32 but it is estimated that there are at least 3,000 small mills now operating in the South which were not productive in March, 1933.

Comparative shipments of mills in operation in the first 20 weeks of 1933 compared with 1934 show a decline of 8 per cent but the loadings of forest products in the South and Southwest from all mills, including those which were not in operation last year, were 34 per cent greater in the first 20 weeks of 1934. Thus, it is assumed that the increased shipments of forest products were not from the mills that were continuously in existence, but from the mills which have been operating during a period in 1934 and were idle during the same period in 1933. For this reason it is claimed that the small mills have been helped under the Lumber Code by enabling them to resume operations.

COMPLETES INTRACOASTAL CANAL LINK

By

Roy Miller

Active Vice-President
Intracoastal Canal Association
of Louisiana and Texas,
Houston, Tex.

FORMAL opening of the Intracoastal Canal from the Mississippi River to the Houston-Galveston district in Texas is anticipated within the next week or ten days. The completion of this important link of the waterway will give to the port cities of Houston, Galveston and Texas City direct connection with the Mississippi River and its various tributaries officially known as the Mississippi River System.

The Intracoastal Waterway of Louisiana and Texas, as the project is officially designated, was authorized by Congress in the River and Harbor Acts of 1925 and 1927. The authorization was for a canal with a 9-foot depth and a 100-foot bottom width so as to provide channel

dimensions to conform to the Mississippi and Ohio Rivers and the Chicago-Illinois Waterway projects. The authorization also included the extension of the canal to Corpus Christi, about 200 miles down the Gulf Coast from Galveston. Construction work on this section is under way and with the final acquiring of rights-of-way, which are furnished free of cost to the Government, it is anticipated that the waterway will be finished to the Corpus Christi terminus within the next two years.

An effort is also being made to extend the canal from Corpus Christi to the Rio Grande Valley, a distance of approximately 130 miles. Final action on a survey recently made by the Government engineers is expected in the near future.

The completed canal from New Orleans to Galveston Bay will be 362 miles long. When finished to Corpus Christi the distance will be approximately 566 miles. The waterway leaves the Mississippi River by two routes, one at Plaquemine, 112 miles up the river from New Orleans which—connecting with the Atchafalaya River—provides a short route for through traffic to and from up-river points; the other from the City of New Orleans via the Harvey Lock, recently completed at a cost of approximately \$1,700,000.

When the canal is finished to the Rio

Important Section of Texas Waterway in the National Transportation Facility to Connect Louisiana and Texas With 13,000 Miles of Navigable Waterways in the Mississippi Valley from Pittsburgh, Chicago, Minneapolis, Kansas City, Omaha, Sioux City, and St. Louis to the Gulf.

Grande Valley in Texas its total length will be approximately 700 miles. An interesting feature of its construction is that except where it crosses open bays having a depth of more than 9 feet, the canal is cut through solid ground, giving not only a protected waterway, but one which will be easy and economical of maintenance.

(Continued on page 58)

Final steps in the completion of the Sabine River-Galveston Bay section of the Louisiana-Texas Intracoastal Waterway at Mud Bayou, near High Island, Texas, under direction of Corps of Engineers, U. S. Army. The Bridge under construction in the Background is the G. C. & S. F. Railway crossing. Completion of this work will open the Intracoastal Waterway to traffic from Galveston to New Orleans

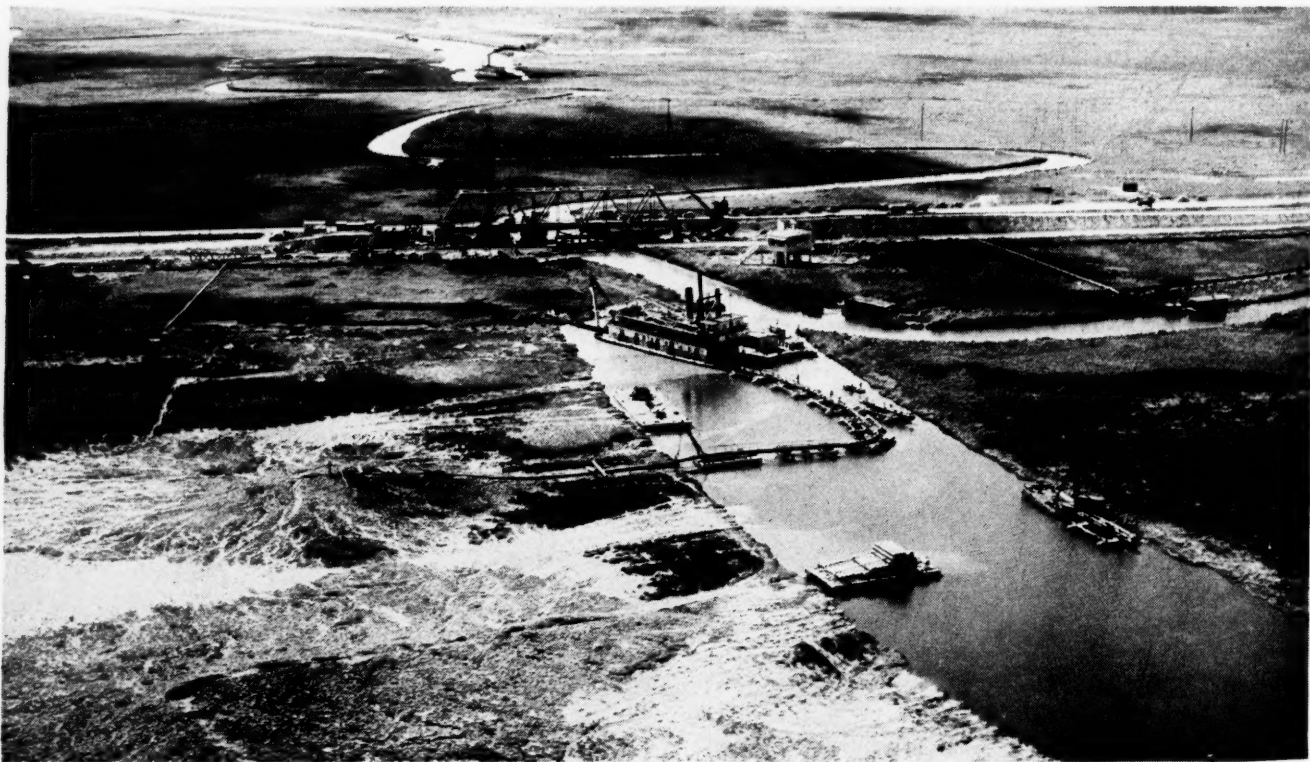


Photo by U. S. Army Air Corps

SOUTH LOUISIANA OIL FIELDS

By
Thomas Ewing Dabney

Production of 15,540,000
Barrels in 1933—With Over
371 Producing Wells and 29
Oil Companies Controlling
Leases of Approximately 3,-
000,000 Acres, Have Greater
Output Than North Louisiana
Fields.

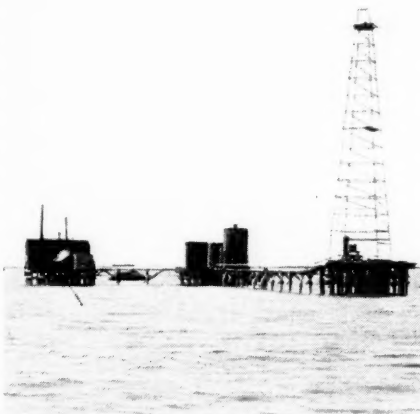
SOUTH Louisiana in 1933 and 1932 produced more oil than North Louisiana. A few years ago, North Louisiana was producing two or three times as much as South Louisiana.

The South Louisiana coastal dome area lies between a line projected through Franklinton, Port Hudson and Oberlin, and the Gulf of Mexico—220 miles by 150. Above this line, the sub-surface formation is what geologists call bent and folded strata, where oil concentrations are found near faults. In part of the South Louisiana area—especially in the Florida parishes north of Lake Pontchartrain—the structure known as the Conroe trend which reaches over from Texas, has the oil industry enthusiastic; but in this article, South Louisiana developments will be used to include only the salt dome formations. Production is proved there; it is not yet proved in the Conroe projection.

P. B. Williamson, consulting geologist and geophysicist of New Orleans, estimates that \$50,000,000 of capital is behind the drive to bring in oil in South Louisiana. T. R. Dean, speaking to the National Oil Scouts Association of America in Lake Charles last March, estimated that 2,000,000 acres of land in South Louisiana were leased for oil purposes during 1933, and that first payments to land owners totalled \$1,500,000.

Operations in Lake Barre, La.

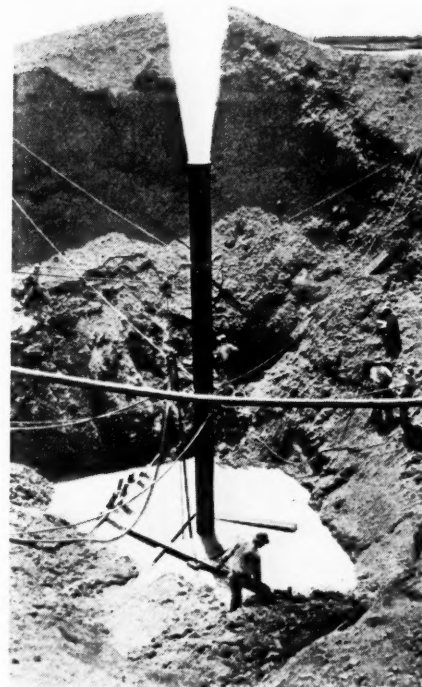
Some of this land was released after exploration, but he said that a total of 2,800,000 acres were under lease in South Louisiana at the end of the year—700,000 acres more than the year



Oil Well in Lake Pelto Field, Terrebonne Parish, La. A great deal of the drilling in South Louisiana is in marshes or even lakes and open water.

before—and at the present rate, there would be 3,500,000 acres under lease at the end of 1934.

His figures show that in January, 1933, there were 18 geophysical parties work-



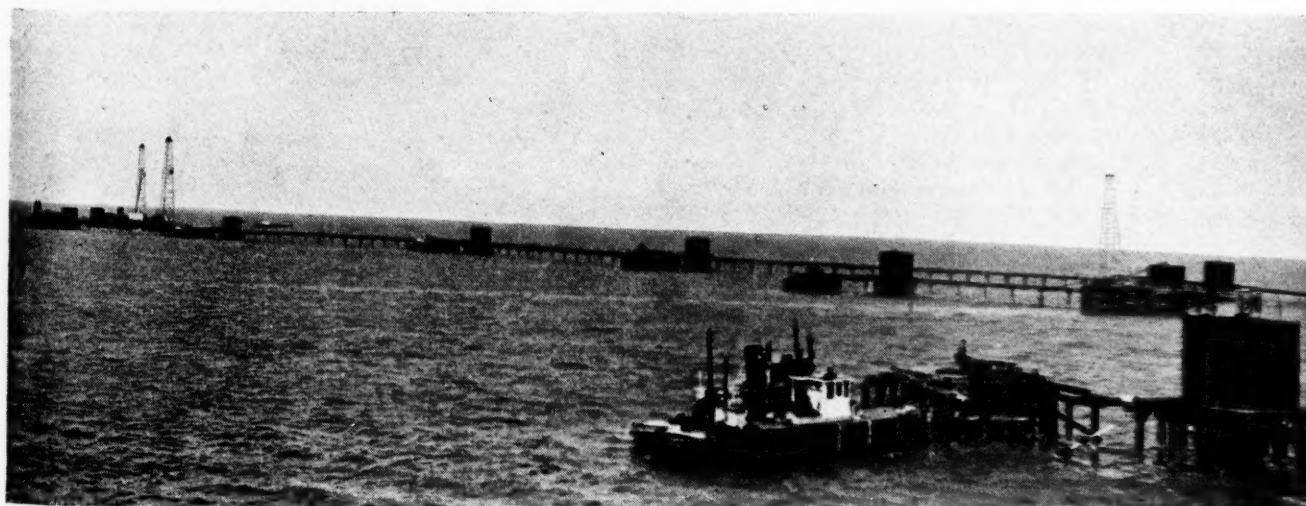
Gas Blowout in Iowa Oil Field, Calcasieu Parish, La.

ing in the South Louisiana territory; in July, 21; in December, 25; and in March, 1934, 31. Their explorations showed results:

"In 1932, there was a total of only 136 wells drilled in South Louisiana, composed of 58 fields and 78 wildcats and semi-wildcats; last year, there was a total of 238 wells drilled, including 164 field wells and 74 wildcats and semi-wildcats; or a 76 per cent total increase in the number of wells drilled."

Here is a partial list of the forces that are leading the great oil attack in South Louisiana—29 major companies and well-financed wildcatters which will come through a Dun and Bradstreet's examination with flags flying—their total capital not far from \$30,000,000,000:

Humble Oil and Refining Company.
(Continued on page 54)



CAPE FEAR DEVELOPMENT

Proposed Plan to Transform Smith's Island Into National Year-Round Recreation Center

DEVELOPMENT of Fort Bragg and the completion of the canalization of the Cape Fear River have attracted attention to the whole Cape Fear region of North Carolina. The Charlotte Observer, commending the move of the Southport Pilot in sponsoring the Cape Fear Valley Development Organization, Inc., says "across the water at Southport stands Smith's Island, the furthest north of the tropical growth an island that for years has invited the hand of the development agency. It could be converted into one of the finest resorts of the Atlantic Coast, but the Government, along with even our own people, remains singularly indifferent to the possibilities." Not only does the region offer recreational possibilities but it is pointed out that the establishment of pulpwood mills to convert the pine woods of Brunswick, Bladen and Columbus counties into commercial uses would act as feeders of the paper mills

Fort Caswell

Types of buildings at this abandoned Army Post on Smith's Island available for renovation in the making of a resort city.



Part of 12-Mile Beach, Smith's Island, N. C.

that are on the way in the Southeast.

Plans have been submitted to official Washington by H. H. Thomas, Charlotte, N. C., for a great national project to make Smith's Island and the deep water land locked harbor of Southport a great all-year resort and playground center in an ideal climate.

In furtherance of the idea, Mr. Thomas says that "at the confluence of the Cape Fear and Elizabeth rivers with the Atlantic, and accessible by rail, paved State highways, intracoastal waterways and seagoing vessels, the nation's most important vacation center could be created. Within four miles of the mainland, is located Smith's Island, a semi-tropical island of about 15,000 acres which rises 58 feet above sea level, and extends southeastward into the Atlantic for 20 miles. Its rocky promontories on the north, and unexcelled beach on the east, south and west provide an unmatched combination of

scenic beauty with recreational advantages. By reason of its nearness to the Gulf Stream, the closest point on the American coast, frosts are unknown, yet the summers are delightfully pleasant. It is a bit of southern Florida or Cuba, approximately 1,000 miles nearer the populated districts of the North and East. Smith's Island is not the usual sand-dune commonly found along the Atlantic seaboard, but it has original growth forests, stately palms, giant ferns, and tropical flowers. It is a vacation paradise in the making which has gone undiscovered and undisturbed.

"The varied and dependable sources of income from this development would make it both self-sustaining, and self-liquidating. Tolls over the causeway connecting with the mainland, concessions, rents, and a sinking fund tax upon visitors would be ample for retirement of a Federal loan."



SOUTHERN PINE PULPWOOD RESOURCES

**Rapid Growth of Slash Pines
Obtained by Georgia Farmer
—From Seedlings to Pulpwood
Size in Six Years**



Photo Courtesy The Atlanta Constitution

Cultivated Pine Trees

Dr. Charles H. Herty measuring one of the trees that grew 50 inches in a year on the Renfroe plantation in Brooks County, Ga. Marion Renfroe is shown with him.

CONTINUED progress is being made in developing a great Southern industry for the manufacture of white paper from Southern pine. Dr. Charles H. Herty and associates of the Savannah Pulp and Paper Laboratory have been developing new facts in the commercial use of pine pulpwood which widens the scope of available pine resources. At first it was thought that only freshly cut young pines would be suitable but further research has revealed that white paper can be made from 75 per cent of groundwood made from pine trees 50 years of age and that groundwood from young pines after being kept in the laboratory for nine weeks from cutting has been made into paper as white as any paper ever made in the laboratory.

"This means," says Dr. Herty, "that practically all standing pine timber of the South is available for making groundwood. The path of a successful Southern newsprint industry becomes broader, brighter and better with each day of continued experimentation.

"One of the most striking things that I have come across lately in the connection with the growing of pines," writes Dr. Herty to the *MANUFACTURERS RECORD*, "is what young Marion Renfroe of Georgia, a real pioneer, is showing in the way of an improved system of agriculture in the South."

As described recently in detail in the *Atlanta Constitution*, the experiments that have been conducted for the past three years by Marion Renfroe, a 23-

year old farm youth, living near Quitman, Ga., who, by utilizing the principle of tree cultivation that is followed in pecan groves and peach orchards, is securing such rapid growth of slash pines from seedlings that forestry scientists are amazed.

Attention is called to the fact that it takes from 40 to 50 years for a Canadian spruce to attain the size required to make wood pulp. Georgia slash pine in forests will attain the proper size in 10 to 12 years. The growth secured by young Renfroe, however, indicates that cultivated slash pines will attain the required size in six to seven years.

A survey of the experiment at the time the accompanying photograph was made showed that many of the slash pines were 13 feet tall and 4 to 5 inches in diameter, having grown to that height from 5-inch seedlings in three years and a half. New growths on some of the trees examined showed that they had added 50 inches since the first of the year. Borings made in one tree indicated that it had grown so rapidly that the yearly growth rings were not visible, while the same test made on a tree in the uncultivated section disclosed the usual rings.

No fertilizer has been used. Corn was planted in the rows between the trees which has given a net profit. As the young trees have reached a height which

will interfere with corn growing, his plan now is to turpentine every other tree and let the naval stores crop carry on the cost of the work. Later on he plans to cut out every other tree, planting a new seedling beside the stump of the tree that is removed. In this way a continuous crop of slash pine, the size required for wood pulp purposes may be maintained.

Having demonstrated conclusively that his project is a success, by his experiments on this small tract, young Renfroe is now desirous of securing 3,000 acres, and as it required 680 trees to the acre, his ambitious plan considers an ultimate purchase of 2,040,000 trees, to be planted at regular intervals, so that he may be insured a continuous crop, each section to be harvested as the trees attain the requisite size.

The way is opened for another cash crop for Georgia farmers that will fit in with the diversified farm programs that have been put into operation during the past few years. It is further assurance that the South can perpetually furnish all of the pine pulpwood required to meet the demands of a newsprint paper manufacturing industry.

A BANKER'S VIEWPOINT

BUSINESS men complain that banks are not performing their rightful mission of furnishing loans to industry and trade. Bankers say that loans are willingly made whenever the borrower is financially responsible but that few new projects have been worthy of the credit required for their development, and, furthermore, business men lacking confidence in the outlook have been afraid to borrow.

Speaking recently on "New Banking Problems" before the joint session of the North and South Dakota Bankers' Association, R. S. Hecht, chairman, The Hibernia National Bank of New Orleans, and first vice-president of the American Bankers' Association, cited some of the changes that have taken place in the field of lending and borrowing of long-term money during the years since the depression. He referred to the fact that "during the ten years from 1922 to 1931, there were floated in the capital markets more than \$5,000,000,000 annually in corporate securities and farm loan issues. During 1932 and 1933 these issues shrank to about \$600,000,000 a year, or a drop of almost 90 per cent. In other words, the private capital market virtually ceased to function.

"We note exactly an opposite set of changes in respect to Federal Government financing. During the first nine years of the 1923 to 1931 period the gross public debt decreased by more than \$850,000,000 annually. In 1931 it began to increase, rising by over \$600,000,000, and the activity of Treasury financing operations expanded tremendously. During 1932 these aggregated more than \$8,000,000,000, of which \$3,000,000,000 represented additions to the gross national debt. In 1933 Treasury financing was in excess of \$10,000,000,000 and again \$3,000,000,000 constituted an increase in the debt, while during the first four months of 1934 these operations ran to almost \$5,250,000,000, of which more than \$2,000,000,000 created new indebtedness. The total new indebtedness in the period beginning with 1931 down to date has amounted to about \$9,000,000,000. Part of this was to take up the deficit caused by decreases in the public revenues and increases in allocations to relief and other emergency measures. A large part was to supply funds to the RFC and other loaning agencies to finance a vast body of corporate and individual borrowings that under normal conditions would have found their requirements through private sources.

"This picture is clear. It means that

a vast volume of private financing has been replaced by Federal Government financing.

"In this connection we, of course, cannot overlook the fact that both the short time and the long time money markets have to a large extent been atrophied by the acts of the Government itself.

"It was inevitable that capital flotations should come almost to a standstill as long as the provisions of the Federal Securities Act imposed on both the creators and distributors of securities such unreasonably severe liabilities and penalties. It is to be hoped that since this law has now been modified in this respect, corporations as well as investment bankers will feel more inclined to float some of the securities which have heretofore been held back because of the uncertainties of the original law.

"But in ordinary business loans, the existing uncertainty as to our future financial policy has been a restraining influence, and has thus contributed to the greater use of these governmental lending agencies in lieu of existing private facilities.

"From many directions the commercial bankers are accused of having developed an undue liquidity complex, and they are constantly urged to adopt a more liberal lending policy as a part of their contribution to the process of recovery. It has been made to appear in some quarters that money has not gone to work because of the timidity of bankers rather than what is true explanation, because business men have not had enough confidence in the business outlook to borrow the dollar from the bankers and put it to work. Well established economic experience shows that the expansion of business loans in the banks always lags behind business recovery. The reason the banks have not expanded their commercial loans is simply that there have not been enough good borrowers and enough good business propositions requiring loans to bring about the desired expansion.

"The basic requisite to the expansion of commercial bank loans is sound, normal business conditions on which to conduct sound, normal banking operations. The best business a bank can wish for is the opportunity to loan money to successful men and manufacturers imbued with confidence to enter upon aggressive business enterprises and endowed with the ability to bring them to successful conclusion. Such loans mean business activity for the community, growing pay rolls and prosperity, and the banker

wants to make them because to be identified with such activities not only means profits to him but, additionally, brings him the regard of good will in his community.

"However, the banker himself cannot create these enterprises and one of his major problems is and has been to find sufficient borrowers who needed funds for seasonal temporary purposes as distinguished from capital or long time requirements.

"Perhaps there is no better proof of the great desire of banks to take care of the short term requirements of the business world than to point out the abnormally low rates at which this demand is being supplied at the present time. On the other hand, it stands to reason that as long as the business world continues to be worried about the nature and extent of the changes that still lie ahead, and as long as there remains serious uncertainty as to the value of the dollar in which loans made now would have to be repaid later, capital will lack courage and the business man will lack both the confidence and the enthusiasm which is so necessary for a revival of business and a return to more normal conditions. And under these circumstances the bankers cannot well be blamed for pursuing a safe, conservative policy.

"Occasional statements to the effect that this apprehension in regard to our future financial policies is groundless do not solve the problem, because business always suffers as much from unfavorable conditions that are expected as it does from those actually existing.

"The growing Government participation in banking is closely interwoven with all the new problems facing us today. They raise a number of pointed questions which will in due time have to be answered.

"To what extent have these government activities really contributed towards the recovery, and would natural processes of liquidation and readjustment have re-established the natural equilibrium of business without this paternalistic help?

"Will this vast amount of credit created through the various alphabetical instrumentalities of the Government be liquidated when the country returns again to a normal economic basis, and will these lending agencies then be dissolved and replaced by private organizations?

"Or will the departmental ambition and the apparently low cost to the borrower perpetuate them long after their need has passed?

"All things considered, are the produc-

(Continued on page 56)

A sudden demand promptly met!



Bell System Teletypewriter Service fits the special needs of concerns in widely differing industries. Here is how it met an unusual situation for the Owens-Illinois Glass Company, as described by Mr. F. J. Solon, General Sales Manager:

"A sudden nation-wide demand for quick delivery of millions of bottles swept into our offices with the legalization of 3.2% beer. This involved co-ordination of instructions between Toledo headquarters and 51 branch sales offices and factories. We already had two private line teletypewriter circuits connecting many of our offices, and we quickly installed two more.

"In addition we had teletypewriter exchange service at 30 more offices. Representatives at points not included used Long Distance to the nearest point on the teletypewriter system, from which the messages were teletyped to destination. We frankly admit that but for these facilities, it would have been impossible to meet the situation without considerable delay and customer dissatisfaction."

Like many other concerns, Owens-Illinois uses teletypewriters daily in supervising plant activities; making personal contact with customers; assuring quick deliveries. Bell System Teletypewriter Service is being used profitably by small companies as well as large ones. Your local Bell Telephone Office will gladly give you full information about it.

**BELL SYSTEM
TELETYPEWRITER
SERVICE**



AUGUST NINETEEN THIRTY-FOUR

IRON, STEEL AND METAL MARKET

EVIDENCES of an improved outlook in the steel industry are not lacking. Major iron and steel producers report profits in the second quarter of 1934 reversing the "loss" trend of previous months. June bookings of structural steel for fabrication established a new high point for the industry since the trough of the depression, and employment during the closing month of the second quarter attained the highest level in four years, coupled with the adoption of plans by leading producers to invest more than \$30,000,000 in new steel finishing facilities.

Major Steel Producers Report Net Earnings Highest In Years

Twelve producers, representing about 80 per cent of the country's steelmaking capacity, reported an aggregate profit of more than \$19,000,000 in the second quarter of this year, compared with a first quarter loss exceeding \$7,000,000 and a loss of more than \$14,500,000 in the corresponding period of the preceding year.

Despite a sharp increase in payroll disbursements in the June quarter the United States Steel Corporation reported a net profit of \$5,350,241 after all charges—the largest profit for a quarter since 1931—equivalent to \$1.48 a share on the preferred stock, on which a dividend of 50 cents was declared. In the corresponding quarter of last year the net loss was \$8,627,367, and in the first quarter of 1934 the net loss was \$6,989,965. The net loss for the six months' period this year was only \$1,639,724 against \$25,357,638 in the first half of 1933, and \$33,670,722 in the first half of 1932.

Operations for the second quarter reached the highest average for a quarter since that for the three months ended on March 31, 1931, Myron C. Taylor, chairman, pointed out. Total payroll for the quarter ran to \$65,094,000, compared with \$33,468,000 in the corresponding period of 1933.

American Rolling Mill Co., Middletown, Ohio, made the best financial showing in the June quarter for any quarter since 1929, its net profit running to \$1,472,879, compared with \$545,269 in the first quarter and \$307,268 in the second quarter of the preceding year.

The Inland Steel Co., Chicago, showed

a net profit in the second quarter of 1934 of \$2,129,198, compared with a profit of \$1,104,357 in the first three months of the year. In the first half year the company's earnings aggregated \$3,233,000, compared with a loss of \$986,000 in the corresponding period of 1933.

New Steel Finishing Capacity Planned

Judging from the recent announcements covering proposed expansion of steel finishing capacity the industry is taking cognizance of the need to keep abreast of engineering developments and to replace existing units with more efficient equipment, which will effect lower production costs, highly desirable in the face of low operating rates. The industry took particular account of the decision of the United States Steel Corporation to make improvements in the Youngstown and Chicago districts, in the face of the ban previously adopted. Mr. Taylor also revealed plans were under consideration for betterments at other plants "to secure greater efficiency in cost of production and to meet the requirements of the trade as to quality of product." Carnegie Steel Company will erect a 42-inch strip mill at Youngstown, and Illinois Steel Company will improve its 28-inch mill at Gary.

Raw steel capacity expansion was specifically banned under the steel code, but it is apparent that the viewpoint of some producers is changing, and the initiation of the finished steel modernization programs may presage construction of new furnaces—as replacements only—which would provide work for many now unemployed.

Birmingham Iron And Steel Plants Book Orders

After years of inactivity the sugar machinery manufacturing business in the Birmingham district is looking up. Goslin-Birmingham Manufacturing Co. has turned out several carloads of machinery for Louisiana projects. In addition several complete sugar mill units are in process of manufacture, and replacement orders are coming in steadily.

About August 15 the Bessemer, Ala., plant of the Pullman Car & Manufacturing Co. will resume operations with 400 to be employed in making 900 cars.

The Seaboard Air Line Railroad is inquiring for 100 70-ton cars to handle phosphate rock from Florida.

Birmingham district plants are obtaining orders for structural steel for plant buildings, bridges and private and Federal buildings and cast iron pipe plants are receiving awards for materials for PWA-financed sewer and water projects. Additional business is looked for as the result of the initiation of Federal building program and the granting of PWA loans recently to numerous committees in the local trade territory.

The recent pick-up in proposed engineering, building and industrial projects will mean the buying in the aggregate of substantial tonnages of iron and steel. They will stimulate the demand for reinforcing steel, and shapes. Sewer and water projects call for big tonnages of pipe, special castings, valves, pumps, tanks, etc. Power projects shortly to be put under way will require reinforcing and structural steel, steel towers, and a variety of costly machinery.

Protest Steel Price-Basing Practice

Birmingham interests have been waging an active campaign against the present steel price differential of \$3 a ton over Pittsburgh and \$1 at Chicago. They contend that, in principle and in effect, it is the same as the old "Pittsburgh plus" system which the Federal Trade Commission some years ago declared to be contrary to Federal law. The *Birmingham News* says it matters not whether the "plus" represents an imaginary freight rate added to the price at Pittsburgh or an arbitrary differential imposed under a so-called basing point. The Birmingham Real Estate Board asserts that the practice of arbitrary padding the price of the lower cost Birmingham district products in order to preserve a parity with the higher cost districts is distinctly to the disadvantage of local industry due to the fact that the cost of producing pig iron is estimated at \$4 a ton lower in the Birmingham district than in Pittsburgh. The fight is being led by the Southern Association of Steel Fabricators, of which W. C. Martin, president of the Vulcan Rivet & Bolt Co., Birmingham, is president, and by John Temple Graves II of the *Birmingham Age-Herald*, who has been active in the campaign to abolish the steel price differential against the Birmingham district.

9 times the 50 lb. hammer
drops from the highest level

and still the pipe resists failure



• Higher and higher goes the 50-pound hammer to levels unapproached in impact tests with centrifugal pipe as we formerly made it. Technical press representatives recently saw Super-de Lavaud Pipe successfully withstand 9 drops of the hammer from the maximum height of 5 feet. Average results of hundreds of less rigorous though standard tests prove that the impact resistance of Super-de Lavaud Pipe is more than doubled. This extraordinary increase in ability to resist shock is due to a basic metallurgical change in gray iron "cast without chill in a metal mold" by the patented Super-de Lavaud process. Super-de Lavaud Pipe does not shatter at bursting pressure. Send for descriptive booklet.

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IMPACT RESISTANCE INCREASED MORE THAN 100%

GOOD ROADS AND MOTOR TRANSPORT

Would End Truck Overloading

A recent ruling of the State Road Commission of West Virginia authorizes the division of the State into metropolitan and agricultural areas for the regulation of motor trucks, the purpose being to bring about a strict enforcement of State laws governing the weight of motor trucks. All incorporated cities and towns of more than 1000 population have been designated as "metropolitan areas" and all territory outside of them as "agricultural areas." Motor truck weight regulations on highways vary in the respective areas.

Tests For Lighted Highways

Experiments now being conducted by the General Electric Company at Cleveland, Ohio, may revolutionize night lighting of motor highways. The "seeing value" of light is being determined by the use of a model road 2000 feet long and 30 feet wide, with human beings, cats, dogs, cows and rapidly moving automobiles on it, everything on a one-eighth scale. Sodium vapor lamps, high pressure mercury vapor lamps and other types will be tested, it is said, in the experiments being conducted.

Marking Appalachian Trail Near-Completion

With the exception of 138 miles, the entire Appalachian Trail stretching from Maine to Georgia, a distance of 2,052 miles, has been cleared and marked, according to reports from Knoxville, Tenn., upon the return of members of the Smoky Hiking Club of that city, from the annual trail conference at Rutland, Vt. Of the 138 miles yet to be cleared and marked, 40 miles are in the eastern end of the Great Smoky Mountains National Park, where a trail is now being built by the National Park Service. The trail from the park to the southern end of the route in Georgia is complete.

At the recent meeting of the Appalachian Trail Association, Major W. A. Welch, New York City, was re-elected president, and Myron Avery, Washington, D. C., was again chosen as chairman of the board. Carlos C. Campbell, Knoxville, Tenn., was elected to the board of managers and to the executive committee. Others from the Southern district on the board of managers are Marcus Book, Asheville, N. C., and Warner Hall, Atlanta, Ga. A. B. Camerer, director of

the National Park Service, and F. A. Silcox, chief forester of the United States Forest Service, were made honorary vice presidents.

Salvaged Timber Used For Rebuilding Causeway

Cited by engineers as an exceptional instance of salvaging material for the reconstruction of a project of that size, the Texas State Highway Department recently completed the rebuilding of the causeway across Nueces Bay at Corpus Christi, necessitated by hurricane damage in the fall of 1933. The causeway is an all-timber structure, one and one-eighth miles long, and during the period of the hurricane was badly battered by the storm, most of the time being completely submerged. It was built following the 1919 hurricane, which completely destroyed a concrete structure built a number of years before. Construction was entirely of treated longleaf Southern pine, a total of 1,423,000 board feet being required for the piling, planking, rails, etc.

A survey of Texas' highway engineers after the 1933 hurricane disclosed that nearly all the longleaf pine piling was still in place, although some of it had been forced out of line. But most of the flooring and railing had been torn loose from the piling and washed up the bay. It was decided to rebuild the causeway in its former form, using all salvaged material possible. Forty days after the work was started, the reconstruction of the bridge had been completed and the structure opened to traffic. Rapid construction is said to have been made possible by the fact that 87 per cent of the original lumber and piling was found and salvaged, although some of the material had been washed ten miles from the bridge site.

Plans To Stimulate Travel

Designed to develop and promote travel between St. Paul, Minneapolis and New Orleans, an association has been organized at Des Moines, Iowa, and will be incorporated under the laws of that state, it is announced. The association will be known as "U. S. 65, Lakes to the Gulf Highway Association". Olin Linn, chairman of the Good Roads Bureau of the Association of Commerce, New Orleans, states that his bureau will appoint a member to represent it on the board of the newly organized association.

Truck Limit on Eight Texas Roads

Trucking business has reached the maximum limit on eight principal highways of Texas, according to the Texas Railroad Commission in denying applications to thirteen truck companies to establish new lines. The commission ruled that further truck operations over these routes would be detrimental to public welfare by increasing the danger to life and property of other motorists. Highways on which new truck lines will not be permitted are the following:

Federal Highway 77 from Oklahoma to Dallas; Federal Highway 75 from Oklahoma to Galveston; State Highway 1 from Texarkana to Dallas; Federal Highway 80 from Louisiana to Dallas; State Highway 6 from Dallas to Houston; State Highway 2 from San Antonio to Oklahoma; State Highway 3 from San Antonio to Oklahoma; State Highway 3 from San Antonio to Louisiana; and State Highway 35 from Houston to Nacogdoches.

100 Miles Highway Under Way

Approximately 100 miles of highway are under construction in Bexar County, Texas, as a part of a proposed highway system, and preliminary plans are in progress for the construction of the remaining 61 miles allocated to the county, according to W. S. Goodman, San Antonio, county engineer.

Galion "Warrior" Road Roller

Modern in design in the field of light rollers, a new Galion road roller in 5, 6, 7 and 8 tons has been introduced by The Galion Iron Works and Manufacturing Company, of Galion, Ohio. This machine, known as the Galion "Warrior" Motor Roller, is patterned after the 10 and 12-ton Galion "Chief" Roller. It is fast and light, modern in all details, and engineered to fit into high speed working schedules economically and efficiently. The engine is of ample power and of smooth performance, while the transmission is exceptionally sturdy. Warrior Rollers are regularly equipped with worm and sector steering gear but may be furnished with hydraulic steering device if desired, providing quick, positive, effortless steering. Rolls are mounted on Timken Roller Bearings, eliminating the frequent replacement of bushings and axle and shimming between hubs and yoke to maintain proper clearance between rolls.

Over 6000 YARDS

with a LIMA TYPE 701

1 3-4 YD. SHOVEL

Over 6000 yards of material a day is the record made by the LIMA 701, 1 3/4 yard shovel owned by Goodfellow Brothers, Inc., Wenatchee, Wash., on the Grand Coulee Dam job.

The type 701 is working three shifts a day, or approximately 21 hours actual operating time. During this period it has been loading overburden into 8-yard dump trucks at the rate of 300 to 360 yards per hour. The remarkable stamina, power and speed of the Type 701 cannot be denied. Yardage records are being smashed wherever the Type 701 is used.

Comparisons prove that the Type 701 with its many advanced engineering principles and its exceptionally low upkeep is giving the user of excavating machinery new low figures in material handling cost.

For further information regarding LIMA excavators write to the Home Office, or to the branch office nearest you.

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SEATTLE 2244 First Ave. So.	Trees Machinery Company Vancouver, B. C.
The General Supply Co. of Canada, Ltd. Ottawa, Ont.	

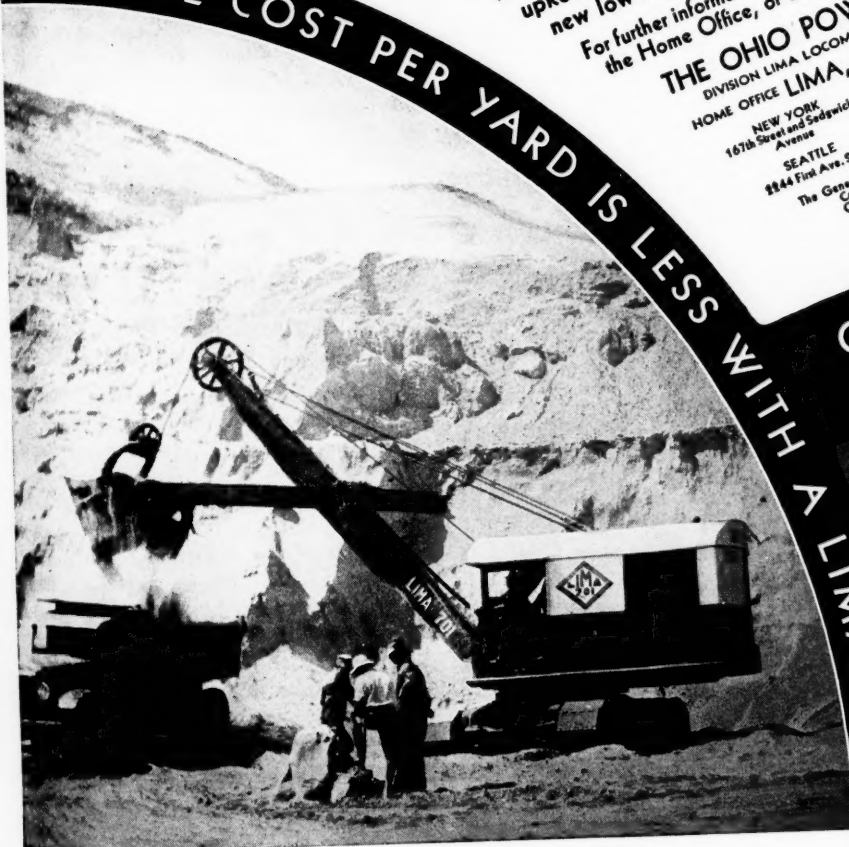
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GRAND COULEE DAM PROJECT

A Type and Size for Every Job
CAPACITIES

Shovels	3/4 yd. to 2 yd.
Capacities	12 ton to 35 ton

LIMA



AUGUST NINETEEN THIRTY-FOUR

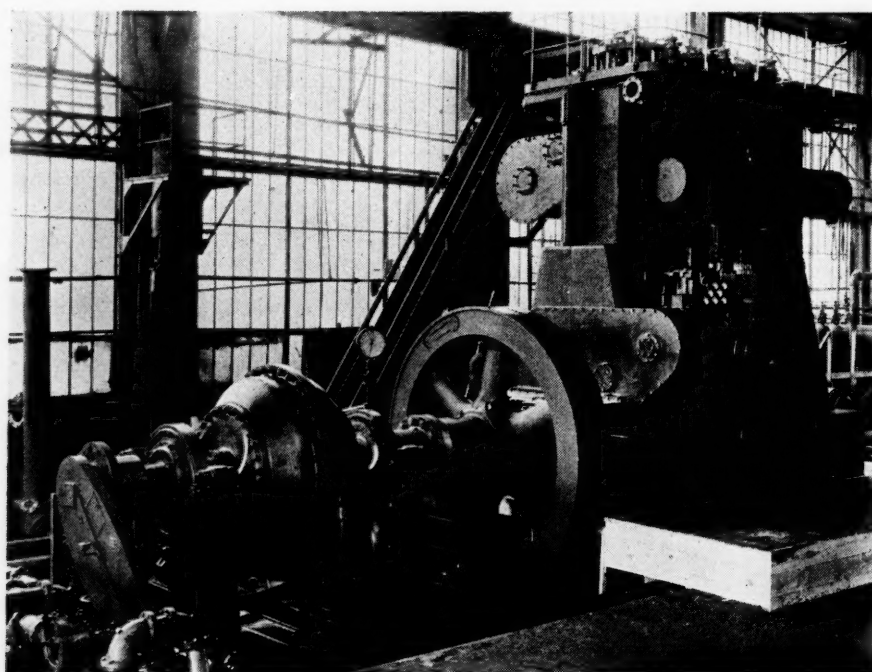
EQUIPMENT

NEW AND IMPROVED

Builds Largest Trunk Piston Diesel

Busch-Sulzer Bros. — Diesel Engine Company, St. Louis, Mo., recently produced a 3-cylinder Diesel engine unit of the two-cycle trunk piston type, having cylinders 30-inch bore by 52-inch stroke, developing a maximum of 800 BHP per cylinder. The building of this unit was undertaken to solve all design problems of the largest sizes, up to 10,000 HP in 12 cylinders in order to establish the practicability of all intermediate sizes between it and the 19½ by 27-inch—3000 HP 10-cylinder engine developed in 1930. Of the latter, three have been in successful operation from one to two years. Following closely the earlier design, the new engine differs from it principally in the unusual size of its cylinders. Simplicity is an outstanding feature of these engines and is particularly striking in this large unit. The design embodies two special features—first a separate piston pin housing which provides full length bearing for the pin, reducing the pressure per square inch about one-third and practically eliminating heating, and second, an annular, open chamber in the lower part of the cylinder jacket, through which the piston is at all times under the observation of the operator. The new engine is expected to materially extend the use of Diesels both in marine and stationary fields.

Trunk Piston Diesel on Test Block



C-E Steam Washer

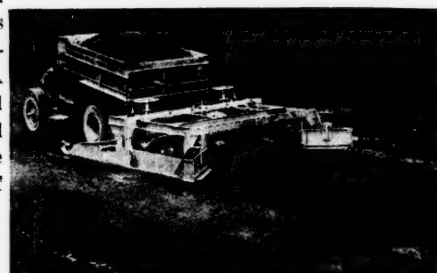
For reducing solid contents in steam leaving the boiler and the consequent protection of the superheater and turbine blading, Combustion Engineering Company, Inc., New York City, has developed a steam washer for placing within the steam drum. Water from the feed box spreads over the initial screen and forms a curtain through which the steam must pass on its way to the outlet at the top of the drum. This washes the steam with clean feedwater and removes much of the solid content. Subsequent screens through which the water passes are designed to remove entrained water. A single washer arrangement is employed where all steam from boiler tubes and water walls enters on one side of the drum, and a duplex arrangement of steam enters on both sides.

Heavy Standard Bronze Gate Valves

A new heavy standard bronze gate valve designed for 150-lb. working steam pressure and 250-lb. working water, oil or gas pressure, has been introduced by The Kennedy Valve Manufacturing Company, Elmira, N. Y. An outstanding feature of this new valve is the large bonnet hex which is placed close to the body to make the entire valve more rigid and also to facilitate the removal of the bonnet and stem assembly when the valve is installed with close clearances.

Vibro-Spreader For Secondary Roads

Outstanding features of the Vibro-Spreader which The Jaeger Machine Company, of Columbus, Ohio has developed for work on secondary roads, include a screed vibrated at 3500 r.p.m. for vibratory spreading, striking off and finishing, "straight edge" sled runners 15 feet long, which act as forms, to equalize high spots and smooth the surface, and a telescoping frame used in com-



Vibro-Spreader in action

bination with screed extension wings to give 9 to 14-foot width adjustability. The machine spreads gravel, rock, slurry, armor plate, macadam and hot or cold bituminous mixes-leveling binder and top course—any width from 9 to 14 feet, and any thickness from 1 to 8 inches. On 2 and 3-lane work the clean-up or flushing wings insure proper blending of strips and uniform density, while the vibration of the screed, which is also imparted to the sled runners, keeps material plastic and the load "alive", reducing draw-bar pull and making possible much faster spreading. Bulletin BS-34, issued by the company, describes the machine in detail.

Single-Stage Type 'OIB' Compressors and Exhausters

The Roots-Connersville Blower Corporation, Connersville, Ind., recently added to its line of centrifugal compressors and exhausters the single-stage type 'OIB' unit. In this design, the machines have their own shafts and bearings and are suitable for direct connection to standard electric motors or steam turbines, without special shaft extensions. Impellers are furnished in aluminum or carbon steel in the standard construction, but special alloys may be supplied where conditions require. Open-type impellers are used in the smaller sizes and the closed type in the larger sizes, each impeller being designed to meet specific requirements.

This is the way a construction crew dressed back in 1812 when this cast iron water main was installed.



Still in service *after 122 years*



OFFICIALS of the Metropolitan Water Board of London recently uncovered for inspection a cast iron pipe line in the original water distribution system of the city, which was built in 1613. This old cast iron main, shown above, was laid between 1810 and 1812 to replace wood and stone pipe. It has been in continuous service since prior to the battle of Waterloo and Napoleon's exile. When uncovered for the first time since it was installed, the main was found to be "as tight as new." The earth was thrown back. The pipe continues to serve.

Cast iron mains still in use after serving 100 to 200 years, and longer, were recently uncovered and inspected in England, France, Germany and the

United States. All were in satisfactory condition for further service. Thus, evidence accumulates to prove that the useful life of cast iron pipe is *more than a century*.

The reason for the long life and low maintenance cost of cast iron pipe is its effective resistance to rust. Cast iron is the one ferrous metal for water and gas mains, and for sewer construction, that will not disintegrate from rust. This characteristic makes cast iron pipe the most practicable for underground mains since rust will not destroy it.

For further information, address The Cast Iron Pipe Research Association, Thomas F. Wolfe, Research Engineer, 309 Peoples Gas Building, Chicago, Illinois.

Methods of evaluating bids now in use by engineers rate the life of cast iron pipe at 100 years minimum

CAST IRON PIPE

Look for this



trade-mark

AUGUST NINETEEN THIRTY-FOUR

31

Confidence For Upbuilding

As progress depends upon individual energy, so initiative that creates wealth requires a definite outlook.

As the business sky clears, the background of piled up demand—unfilled for years—is seen. Here is a strong foundation for business development.

We are prepared to render industry every reasonable service.

•

Baltimore Commercial Bank

GWYNN CROWTHER, President

Baltimore, Maryland

Member Federal Reserve System

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New York

FINANCIAL NEWS

Improvement in Florida

In a summary of the Associated Press, attention is called to the price recovery in the municipal and county bonds of Florida during the last six months. "Many issues now in default have made gains, amounting in some cases to as much as 100 per cent. Higher priced bonds, on which service has been maintained, have advanced sharply toward par, and a few are quoted at premiums."

Florida enjoyed an excellent tourist season last winter, and another aid to the municipalities in getting in more satisfactory financial conditions was the enactment of a law permitting them to purchase their own obligations in the open market. Added to this was the local legislation permitting taxpayers to meet levies by handing in local bonds of the city. These were either accepted at par, or at prices well above market quotations. The general situation throughout the State is much more encouraging than it has been for several years.

Banks' Holding of Government Bonds Increase

In the six months ending June 30, nineteen clearing house banks and trust companies of New York added more than \$700,000,000 to their holdings of government and treasury obligations.

The Federal Government can now borrow money more cheaply than it has been able to do for twenty years, and this notwithstanding the large increase in the public debt, and the expectation of more borrowing to come.

The yield on all Treasury obligations is now below 3 per cent. All issues being well above par, the ease with which money can be borrowed at the lower rate of interest naturally is gratifying to those in authority. It is equally true these huge amounts piled up in banks would be doing a large part in recovery work if loaned to industry for productive enterprise. Unfortunately, at the present time, industry is disinclined to borrow.

Return of Confidence

Strikes and uncertainty about the future continue to be the cause of business hesitation. There has been more than the usual summer lull in trade circles. Without discussing the pros and cons of a very complicated situation, it is apparent to every thoughtful person that a return of individual confidence in future business is essential before we will have any well grounded, real prosperity. What will produce this in the face of the disturbing strike situation, drought, huge government spending and other factors, is a question difficult to answer.

Rising prices do not seem to have caused the expected increase in buying, nor have wage scales with higher minimum rates than formerly prevailed. Wages in the building trades and the prices of building materials have not been attractive to those who might otherwise be in the market for new structures for business or homes. The president of the American Federation of Labor refers to the noticeable lack of demand for workers that will reduce materially the number of unemployed. Practical men believe that government, both national and local, will have to lead the way by economy, instead of extravagance, before individual confidence will be manifested.

(Continued on page 34)

Savings Threatened

THE investments of thousands of ordinary working people are threatened, and national recovery is impeded by oppression of the utilities. There are more than 300,000 individual security-holders in the Associated Gas & Electric System, distributed over every state of the Union and thirty-three other countries.

45,000 Associated investors are manual laborers.

39,000 have supervisory positions, or are proprietors of small businesses.

26,000 earn their living through teaching or other professional services.

32,000 are clerks, bookkeepers, agents or salesmen.

107,000 are women—most of whom are housewives.

The Associated Gas and Electric Company Plan of Rearrangement of Debt Capitalization is designed to protect the interests of these security-holders.

ASSOCIATED GAS & ELECTRIC SYSTEM

61 BROADWAY, NEW YORK



Georgia, South Carolina, Tennessee and Alabama
STATE AND MUNICIPAL BONDS.
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from smallest to largest capacity.

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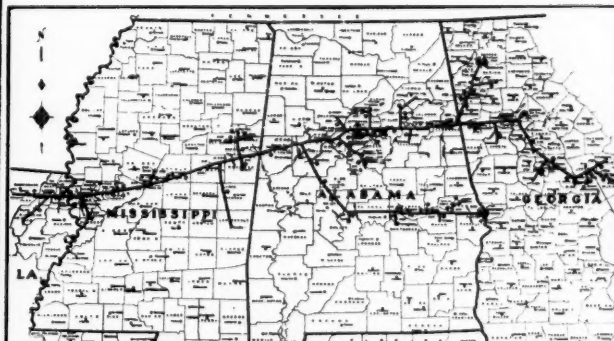
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FOR THE CERAMIC INDUSTRY

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Your competitor probably is.



Southern Natural Gas Corporation
Watts Building
Birmingham, Alabama

NOW'S THE TIME to install MONEY-SAVING PIPE

Engineers and contractors can profit by economy in installation—the owner profits by long, trouble-free service

The contractor will save time and money for himself by working with NATIONAL Pipe. Threading, cutting, installing, tightening up, and final inspection are so quickly accomplished with this exceptionally well made, smoothly finished pipe that the immediate gain is very clear.

The property owner's interest will be served because of the extra tight, extra secure, extra durable job that results when NATIONAL Pipe is installed.

Reputation, good will, and a profitable business may be expected to grow up where such materials are combined with sound workmanship. Make NATIONAL Pipe your standby. Produced with unrivaled facilities by the largest manufacturer of wrought pipe in the world. Meets all standard specifications. Recognized everywhere as—

America's Standard Wrought Pipe

NATIONAL TUBE COMPANY
Subsidiary of
United States Steel Corporation
Pittsburgh, Pa.

Check these 10 outstanding advantages of NATIONAL PIPE

1. Completely uniform.
2. Strong and ductile.
3. Threads easily.
4. Flanges readily.
5. Coils and bends well.
6. Sound joints.
7. Available in copper-steel.
8. Scale-free.
9. Spellerized.
10. Rigidly tested and inspected.

NATIONAL PIPE

Financial News

(Continued from page 32)

Delayed Cotton Allotments

Some of the complaint in the Southwest on the part of farmers about the Bankhead cotton reduction bill, is based on the failure to notify individual farmers as to their exact allotments. In the south central part of Texas, cotton is being harvested and until a week ago farmers were still without notification as to how much they could sell without incurring a penalty. The opinion is expressed by those who are in touch with the situation that if farmers had thought that notice of allotments would be delayed so long, they would have been opposed to the bill. Petitions from different quarters have been directed to Washington, suggesting that enforcement of the provision of the measure at this time be postponed.

Complaints are not only due to the delay in notification mentioned, but in some cases as Franklin County, N. C., does not like its allotment of 8,594 bales, which it is stated "means a reduction of 56 per cent in the normal cotton crop of Franklin County, as compared with a cut of 27 per cent in the country's cotton crop."

Loans to Farmers

The Farm Credit Administration states that loans from Federal land banks keep up at about the same volume they did earlier in the year. Three hundred and ninety million dollars is the total of the amount loaned farmers for the three months ending July 27, compared with \$420,000,000 for the first three months of this year.

Since last summer a total of \$1,050,000,000 has been loaned. The Land Banks and the Commissioner now hold approximately 26 per cent of the total of farm mortgage indebtedness in the country.

Loans to Veterans

The balance due to holders of adjusted-compensation-certificates amounts to \$2,200,000,000. Of the 3,545,284 holders, 3,019,382 have borrowed half of the face value of their certificates.

Postal Surplus

Mr. Farley announces a surplus of \$5,000,000 from postal operations during the fiscal year. This is the first time for many years the department has been out of the red. At the time of this announcement, the Postmaster General stated that he hoped to be able to find a way to reduce the rates for first class postage. In his opinion the Postoffice Department is not supposed to be run for profit, and any benefit of economies might well be directed toward reductions in charges to the public.

Three cent postage, in the opinions of many large users of the mails, is a mistake. Mail order houses and others sending out advertising literature have found it advisable to use open envelopes at reduced postage prices instead of sealed enclosures formerly employed when two cents was the postage rate. The sealed letter undoubtedly receives more attention and it would be interesting to know what the receipts of the Post Office in first class postage have been at present rates compared with what they were under the former postage charges.

Savings Deposits

Mutual savings banks report the largest number of depositors on record in more than one hundred years. The total of June 30 was 13,686,947 depositors. Total deposits the first half of this year gained 12½ per cent. The total now is \$9,750,000,000.

RECOVER RIGHT
WITH **Barrett**

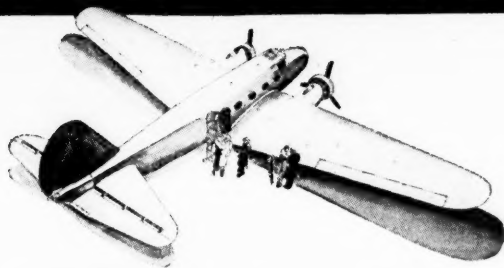
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ADMINISTRATION BUILDING
Shushan Airport, New Orleans, La.

73,600 sq. ft. of 20-year bonded Barrett Roofs protect this modern building. Owners: Board of Levee Commissioners of the Orleans Levee District. Arch.: Weiss, Dreyfous and Seiferth, Inc. Gen'l Cont.: Caldwell Brothers and Hart. Rfg. Cont.: Holzer Sheet Metal Works, Inc. All of New Orleans.

for SHUSHAN ... the World's finest Airport



SURPASSING London's Croydon or Berlin's Templehof, is the new Shushan Airport, New Orleans; which was formally dedicated during the recent Mardi Gras season. Its impressive Administration Building with control tower, office, hotel and restaurant facilities was designed as the most modern expression of airport development.

In the matter of roof protection the builders of Shushan borrowed from the experience of foremost architects and engineers who have consistently specified and used

Barrett Roofings. The weather-safe, fire-safe Barrett Roof that protects Shushan is definite assurance against impaired or interrupted service due to any roof defect.

Barrett Roofs are the result of eighty years of successful research and manufacturing experience. They are the first choice of leading architects, engineers and building owners ... everywhere.

Whether yours is an old or a new building, there is no substitute for Barrett Roof protection. Recover right ... the Barrett way. Consult with your local Barrett Approved Roofer, or write us for information on any roofing or waterproofing problem.

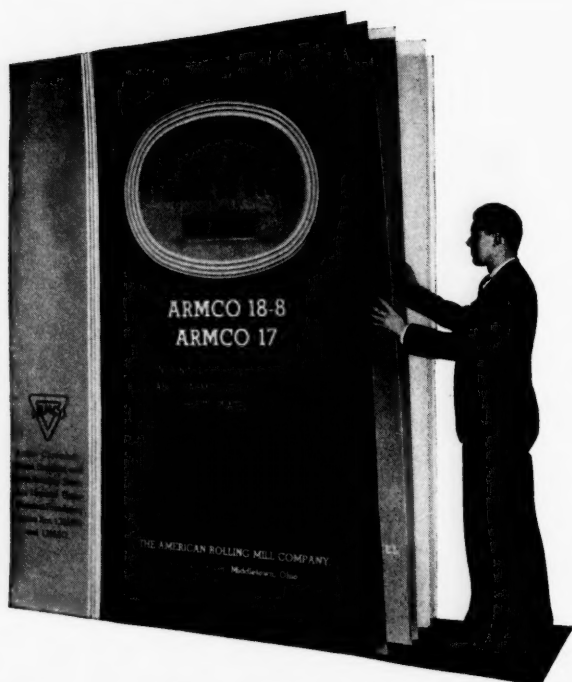
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Panorama of Shushan Airport, Moffett Hangar No. 1 (left), Lindbergh Hangar No. 5 (right), and the Administration Building (center) are all Barrett-roofed

AUGUST NINETEEN THIRTY-FOUR



Easy to get THIS INFORMATION that brings you PROFITS with STAINLESS STEELS

MAYBE you would like to use stainless steels if you could learn just how to fabricate them economically. • Now you can easily get this information, by mailing the handy coupon below. • Send for this helpful book today. It costs you only a 3-cent stamp, and is filled with useful facts that research men have worked for years to get and compile. • It shows you what you may expect when you use **ARMCO STAINLESS STEELS**. Among other things you will learn about their exceptional corrosion resistance, their refusal to fail under high temperatures. This book also tells you how easily and surely these improved metals shear, punch, form, draw and weld. • Here is an instructive, interesting treatise written to order for you. Just snip the coupon, fill it out and mail. Your copy will be sent promptly.

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MR-8-34

OVER THE EDITOR'S DESK

WILLIAM ALLEN WHITE, in a notable address recently, directed attention to some of the consequences of the New Deal. The New York Herald Tribune in commenting upon it, drew the inference that what the individual American is being called upon to decide today is whether he wants prosperity and loss of freedom, or retention of freedom even if he has to remain poor.

THE CASE OF L. GREIF & BRO., INC., clothing manufacturers of Baltimore, has attracted nation-wide attention by reason of the demand from NRA authorities that they surrender their Blue Eagle.

United States Judge Coleman issued a temporary restraining order, preventing local code authorities from withdrawing the Blue Eagle until the case could be properly heard. Washington, nevertheless, demanded that it be returned and back wages, which code authorities claimed were due, be paid. The firm refuses to give up the Blue Eagle until the case is heard and it will probably go to the Supreme Court for final settlement.

Some commentators believe if the clothing manufacturers win it will mean a defeat for the NRA from which it will be difficult to recover. Complaints are heard from various sources of code authorities prying into the personal affairs of individual businesses to an objectionable and unnecessary extent. These complaints take the form of statements that individual members of a code should not be required to give innermost facts of business to their competitors, as they are used unfairly for competitive purposes.

Reports from Washington indicate that the NRA will consider, in the hope of retaining the Recovery Act as a permanent part of the law of the land, certain changes to be presented at the next session of Congress, to make it more workable. The present Act expires in the summer of 1935. It is said that among these changes will be the abolishment of Section 7A.

THE AAA REPORT that cotton growers who took options on Government-held cotton at 6 cents a pound as part payment for participating in the 1933 cotton adjustment program, have received up to June 30 of this year, a total of \$11,618,000 on account of exercise of options by the sale of cotton and nearly \$40,000,000 on account of exercise of options by participation in the cotton producers' pool. Payments went to cotton growers in 18 States.

Total payments to producers cooperating in the adjustment program of the AAA were \$228,633,000 up to June 30. Of this amount, cotton producers have been paid \$139,525,000; wheat growers in 37 states nearly \$69,000,000, and tobacco growers in 23 states nearly \$13,000,000.

THIRTY-THOUSAND TEXTILE WORKERS in Alabama are striking for a 30-hour week with a minimum wage of \$12.00. Leaders in the union are said to be considering a nation-wide textile strike if these demands are not met.

RECENT RESEARCHES of the Department of Agriculture have developed two new varieties of sugar cane. They are said to combine more good features and fewer bad ones than any other varieties of sugar cane now raised in the United States.

These new canes have just been released to growers. It is claimed that they have a high yield of sugar, resistance to disease, early maturity, and the new crops grow well from

MANUFACTURERS RECORD FOR

stubble. They produce among the highest yields of sugar of any cane now grown and are immune to most of the sugar cane diseases.

THE IVORY COAST OF AFRICA, during 1933, planted 260,000 acres to peanuts and harvested a crop of 46,000 metric tons. The Colonial Government, in order to aid the vegetable oil industry, removed taxes on exports and reduced other tax and freight charges.

THE WORLD HAS 42,540,000 RADIO SETS, of which 18,500,000 are in the United States. Modern equipment brings to our homes the news from the far places of the earth at no expense other than the original investment and the slight cost for electric current. Probably soon to follow will be the perfection of television, so that we may witness the scene while hearing the description. As long ago as 1883 the MANUFACTURERS RECORD told of some of the possibilities of the mysterious force of electricity with which comparatively little had been done at that time. The editor was bold enough to point to television as one possibility of a future day. It is getting very near.

A boon now accepted as an every-day matter of course, to the people of an older generation never will be anything else but one of the mysterious things that cannot be understood.

Marconi, the inventor of wireless, whose work has saved so many lives at sea, has now perfected radio light-houses, which will guide ships safely past fog-bound coasts, and by the aid of stations on shore pilot them into port.

GASOLINE IN BIRMINGHAM, according to the Birmingham News, sells at 21 cents a gallon, although the carload price of it at the basic point, Shreveport, La., is 4.78 cents a gallon. Nearly 3 cents a gallon is the amount of the freight from Shreveport to Birmingham. The retail distributor is allowed 4 cents to cover his expenses of handling. The remainder is made up by taxes, which include State tax of 6 cents, Federal tax of 1 cent and city tax of 1 cent, a total of 8 cents, or nearly 40 per cent of the selling price and almost double the price at basing point. It is stated, that there are 118 separate taxes levied on oil "from the time it is taken from the ground until it reaches the public."

AN ADVERTISEMENT FROM TEXAS offers a "\$50,000 home for less than half price in the best place to live or invest."

One of the noteworthy things about Texas is the enthusiasm its citizens have for it—"the best place to live and to invest." Life in that Commonwealth makes a strong appeal.

The West Texas Chamber of Commerce published recently articles from half a dozen young people who were prize winners in a contest for the best written description of a home town. Their loyalty and love for these towns of their birth in the great Southwest are inspiring, and their statements inescapably convincing.

A new outlook is presented in such refreshing opinions of home towns in Texas, where life takes on a new aspect of freedom and spaciousness in a growing empire.

RESPONSIBILITY for the "New Deal" laws rests upon Congress. But we must not forget that many recent laws had their inception in the minds of the advisory new dealers who saw to it that their experimental schemes were approved by Congress.

Therefore, when we hear some who are responsible for the execution of certain Administration policies saying that they "are required by laws approved by Congress of the United States" to enforce production control, industrial regulation and expand Government competition they are begging the question and their "alibi" in trying to hide their part in Socialistic legislation is weak.

ELEVATED TANKS for Municipal Service



Waterworks improvements at Humboldt, Tenn., including the 200,000 gal. elevated tank at the left reduced the pumping cost to less than one half what it was when pumping direct. Elevated storage reduces operating costs by cutting down the amount of water pumped at peak periods.

Elevated storage also improves service by maintaining uniform pressure in the mains at all times. The 500,000 gal. tank at the right, is located at Jacksonville, Ill.



Elevated tanks increase the capacity of existing water systems when located in areas of heavy demand. Mains which otherwise would have to be replaced are adequate for many more years, as they only need carry average loads. The peak demands are supplied from the elevated storage. The 300,000 gal. tank at the left is at Pompano, Fla. We build elevated tanks in standard capacities from 5,000 gals. to 2,000,000 gals.

B-397

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Birmingham	1530 Fiftieth St., North
Dallas	1208 Burt Building
Houston	2919 Main Street
Tulsa	1611 Thompson Building
New York	3313-165 Broadway Bldg.
Cleveland	2216 Rockefeller Building
Chicago	2106 Old Colony Building
San Francisco	1040 Rialto Building
Havana	Apartado 2507

Plants at BIRMINGHAM, CHICAGO and GREENVILLE, PA.

ARE YOU AWARE THAT—

MORE MONEY was spent for new construction by the electric light and power industry during 1933, than the Federal Government disbursed through loans and grants to municipalities and expended on the Boulder Canyon and TVA projects combined.

GASOLINE TAXES cost American users of motor vehicles 700,000,000 last year. Gasoline tax evasion is costing the States from \$25,000,000 to \$100,000,000 a year. The average tax on gasoline is now estimated at more than 43 per cent and the excessive rate of the tax encourages the gasoline racketeer and the bootlegger. The oil industry now pays a tax bill of more than \$1,000,000,000 a year, or the equivalent of more than 8 per cent on its total investment.

MOTOR TRUCK OPERATION by 100 railroads now includes 2,000 trucks, tractors and trailers, and 75 railroads operate 4,500 motor coaches.

CELLULOSE can be produced 1500 pounds to the acre of Southern pines

estimated to provide a source of supply for rayon manufacturers at about half the present price for purified cellulose.

PRODUCTION of finished rolled iron and steel in the South amounted to 2,575,000 tons in 1933, a gain of 57 per cent over 1932.

FEDERAL WORKERS will receive about \$40,000,000 increase in pay in the coming fiscal year due to the new law that all government employees entitled to automatic promotions will receive credit for their services during the period payments were suspended by the Economy Act.

AMERICAN COTTON CONSUMED throughout the world for the season ended July 31 is estimated at 13,564,000 bales compared with 14,405,000 bales for the 1932-33 season. Although consumption was less, production was also smaller, with the result that the world carryover at the end of the 1933-34 cotton year was 10,836,000 bales as compared with 11,754,000 bales a year ago, and 13,228,000 bales two years ago.

RESIDENTIAL VACANCIES have decreased about 25 per cent during the past year. There is a vacancy ratio now in the South of about 6 per cent while "doubled-up" families are reported in over 9 per cent of the dwelling units.

AMERICAN CONSUMERS paid \$9,000,000 for about 130,000,000 pounds of tung oil last year, practically all purchased from China. The South is now developing a domestic tung oil industry.

ABOUT 20 per cent of urban American homes are without kitchen sinks and 39 per cent are without electric lights.

OF THE 200,000 INDUSTRIAL COMPANIES operating in the United States 27,000 are engaged in the iron, steel and metal working field. Normally they are responsible for 25 per cent of the nation's entire industrial output.

RAW COTTON EXPORTS during 1933 amounted to 4,523,000,000 pounds, about 6 per cent under the all-time record of 1932. Valued at \$398,212,000, cotton exports in 1933 exceeded by 10 per cent the 1928-1932 average and accounted for more than 24 per cent of the country's total export values that year.

(Continued on page 40)



MOUNT AIRY GRANITE

*For Better
Buildings and Memorials*

NORTH CAROLINA GRANITE CORP.
Mount Airy, N. C.



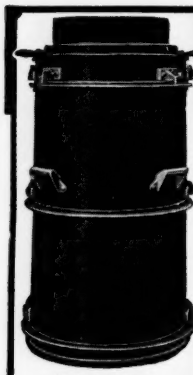
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QUINN "HEAVY DUTY" PIPE FORMS

PIPE FORMS HAND OR WET PROCESS

New national and state public works construction programs mean business for contractors and pipe manufacturers. Sewers and culvert pipe will be used in large quantities for some of the work. Get ready now for the demand.

Quinn Heavy Duty Pipe Forms are standard in every respect — assures pipe of highest quality. Backed by our 25 years' experience in the manufacture of concrete pipe equipment. Sizes 12" to 84"—any length. Tongue and Groove or Bell End.

WRITE FOR PRICES AND CATALOG
Also manufacturers of concrete pipe machines for making pipe by machine process.

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RAILROAD CONSTRUCTION

The Arundel Corporation

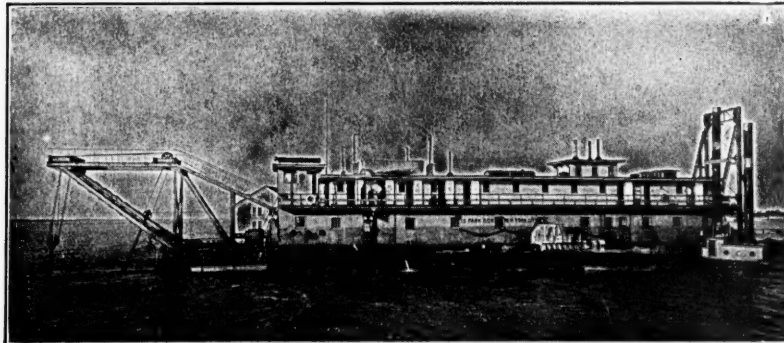
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DREDGING

FILLING, LAND RECLAMATION, CANALS, PORT WORKS
RIVER AND HARBOR IMPROVEMENTS—DEEP WATERWAYS AND SHIP CHANNELS



We are especially equipped to execute all kinds of dredging,
reclamation and port works in Southern waters.
Correspondence invited from corporate
and private interests everywhere.

Contractors to the Federal Government

ATLANTIC GULF AND PACIFIC CO.

NEW YORK: 15 Park Row

HOUSTON, TEXAS: Scanlan Building

Are You Aware That—

(Continued from page 38)

RESIDENTIAL BUILDING amounted to \$2,788,000,000 in 1928. By 1933, new home construction had dropped to \$300,000,000. An annual building volume of 800,000 residential structures is required to supply the need for new dwellings, which does not include the replacement of existing sub-standard homes. Approximately 60 per cent of existing dwelling units are in need of repairs, and half of these in need of major structural repairs.

CASH INCOME of farmers for the first half of this year amounted to more than \$2,600,000,000, about \$120,000,000 being from benefit payments and rentals paid by the AAA.

THE COTTON PROCESSING TAX amounts to only 93 cents per year per person in the United States.

RAYON PRODUCTION in the United States and the world reached record proportions in 1933. Rayon production of the United States was 207,580,000 pounds or 32 per cent of the 659,500,000 pounds produced in the world in 1933. Seventy per cent of the rayon production capacity of the United States is in the South.

EMPLOYEE representation plans now in effect in the steel industry are favored by a majority of the employees. In a recent employee election, 90 per cent of the 214,568 eligible employees voted against a strike and evidenced their approval of the present method of collective bargaining.

ELECTRIC APPLIANCE SALES have been the heaviest in several years. A total of \$460,000,000 were sold last year, the highest for any of the three preceding years.

UNITED STATES TOURISTS spent in foreign countries an average of \$700,000,000 annually between 1924 and 1930. Only \$298,000,000 was spent abroad by American tourists in 1933, 65 per cent less than the record expenditures of \$821,000,000 in 1929.

THE PAINT AND VARNISH INDUSTRY reported sales by 586 establishments for the first four months of this year of \$89,321,000 compared with \$55,563,000 for the corresponding period of 1933.

CRUDE SULPHUR EXPORTS for the first five months of 1934 totalled 192,129 tons, valued at \$3,575,000 compared with 136,512 tons, valued at \$2,601,000, in 1933. The South produces all of the sulphur mined in the United States.

A \$2,500,000 BUDGET for administering the automobile retailers' code has been approved by NRA members.

PERSONS earning less than \$3,000 a year own two-thirds of all the motor cars in the United States.

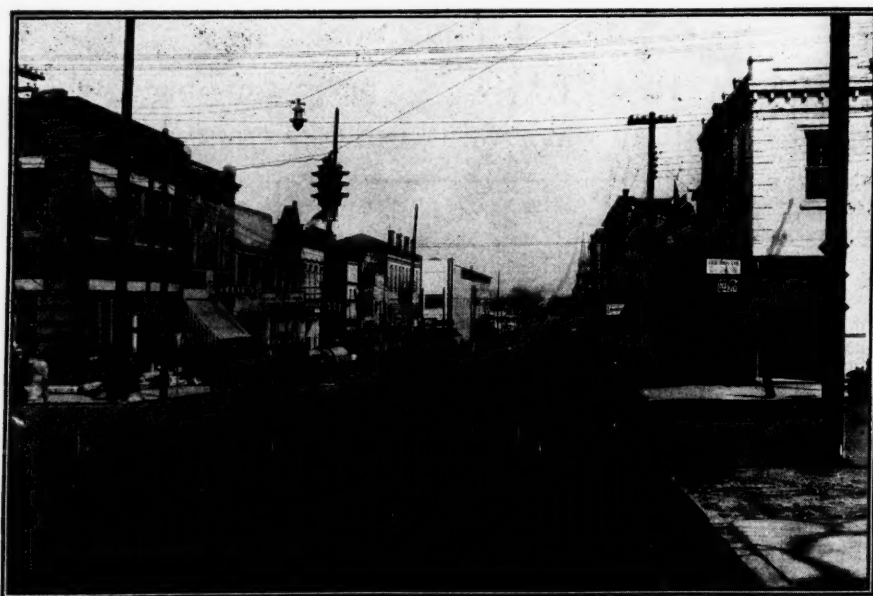
TVA has given employment to 9,000 men so far and at the peak of the work it is expected that 20,000 will be employed.

GREAT BRITAIN has made greater strides in employment than the United States. Industrial employment in Great Britain is now more than 10,187,000, within 33,000 of 1929 which was the peak in the industrial employment in British history.

NORTH CAROLINA TIMBER owners, wood cutters, wood haulers, and marketing agents receive an annual income of \$1,500,000 from the marketing of pulp wood.

LIVESTOCK ON SOUTHERN FARMS are valued at more than \$911,000,000. Of the country's total number, the South has 84 per cent of the mules, 24 per cent of the horses, 30 per cent of the sheep, 24 per cent of the swine, 32 per cent of the cattle and 30 per cent of the cows and heifers kept for milk. Both cattle and sheep have increased in number since 1932.

BRICK SERVES BETTER—COSTS LESS



DATA ON PERRY STREET, MONTGOMERY, ALABAMA

First Paved: 1894.

Length of Service: 40 years.

Maintenance: Nil to practically none.

Relaid: 1934. *Labor:* CWA.

Salvage: 75% of original brick.

Authority: Roy S. Garrett, Assistant City Engineer, Montgomery, Ala.

Data Published by: National Paving Brick Association, Washington, D. C.

Only when a brick surface is used can you get 40 years of

maintenance-free use from a pavement... and still have the

making of a fine new pavement from the salvage of the old one.

Look at this Compact Installation

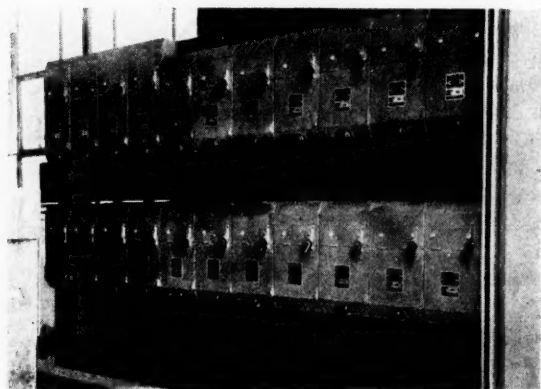
EC&M TYPE A SAFETY SWITCHES are very small and compact yet they are sturdily constructed.

Contacts are double-break and of the wiping wedge V-shape type. They cannot get out of line because the entire switch is mounted on a single base. *All blades must open and close* when the switch is actuated because they are definitely attached to a steel cross-bar and must travel with it.

These are only a few of the reasons why EC&M Safety Switches are used by everyone concerned with the installation of a safety switch that will do away with trouble and last for many years.

Send for complete descriptive Literature 1184-R

THE ELECTRIC CONTROLLER & MFG. CO.
CLEVELAND, OHIO



Mascot Chatts

ASPHALTIC ROADWAY GRAVEL

ROOFING GRAVEL CRUSHED STONE

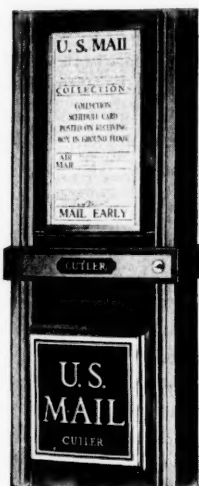
ASPHALT FILLER DUST

American Limestone Company

Knoxville

Tennessee

MODERNIZE with a CUTLER MAIL CHUTE



Expected as a matter of course in the modern office building or apartment.

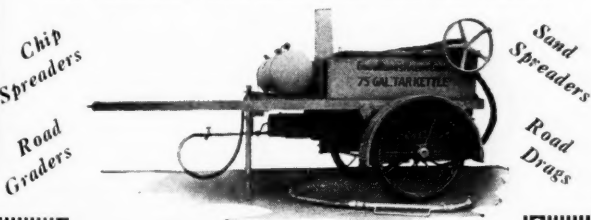
It guarantees to the tenant up-to-date service and saves the owner its cost in reduced elevator operation.

Full information, details, specifications and estimates on request.

CUTLER MAIL CHUTE CO.

General Offices and Factory
ROCHESTER, N.Y.

For Your Maintenance Requirements—
GOOD ROADS CHAMPION HEATING KETTLES
Oil Burning—Spring Mounted—Roller Bearing—Rubber Tires
Also Bituminous Distributors—500-1200 Gal. Capacity



GOOD ROADS MACHINERY CORP.

KENNETT SQUARE, PA.

CRUSHED LIMESTONE

Best for All Purposes

We manufacture all sizes of stone suitable for all classes of road building and concrete work where only a high-grade limestone is required.

Quarries opened up in 1912.

Capacity 8000 tons daily.

Four Quarries

Blue Ridge, Va. Pembroke, Va. Pounding Mill, Va.
Boxley, Greensville County, Va.

W. W. BOXLEY & COMPANY

Room 711, Boxley Building.-ROANOKE, VA.

« « LETTERS FROM READERS » »

Bureaucratic Control Threatens Industry

GREAT SOUTHERN LUMBER COMPANY
New York, N. Y.

EDITOR MANUFACTURERS RECORD:

I have looked over with much interest the July issue of your magazine. I want to compliment you most highly on this number. You have said in editorials and printed in news articles things that must be said repeatedly if we are to be saved from the avalanche of bureaucratic control that threatens industry.

I have been particularly interested in your editorial on "Independence and the New Deal" and in Senator Byrd's and Mr. Edgerton's articles. They are all clear expositions of an intolerable condition.

A. C. GOODYEAR,
President.

Presents the Facts

COLUMBUS IRON WORKS COMPANY
Columbus, Ga.

EDITOR MANUFACTURERS RECORD:

I have read with more than usual interest the July issue of the MANUFACTURERS RECORD, being particularly interested in Senator Byrd's article, "Shall We Destroy the Foundation?"

As usual, I think the MANUFACTURERS RECORD is presenting the facts fully and frankly. I have read it for a great many years and have always found much of value in its pages.

C. D. CABANISS,
Vice-President.

Constructive Criticism

THE AMERICAN ROLLING MILL CO.
Middletown, Ohio

EDITOR MANUFACTURERS RECORD:

In acknowledging your letter of the 13th instant, I wish to take this opportunity to extend my very sincere congratulations to you on the July issue of the MANUFACTURERS RECORD. It is a very constructive issue.

I wish it were possible for every business man in America to read the article by Senator Byrd, of Virginia.

There is much work ahead for the thoughtful patriotic citizens if we are to prevent the breakdown of the economic system which has made us a country whose citizens enjoy the highest standard of living in the world.

CHARLES R. HOOK,
President.

A Conclusion

REYNOLDS BROS. LUMBER CO.
Albany, Ga.

EDITOR MANUFACTURERS RECORD:

Sometime ago I criticized, in a friendly way, your expressed opinion about the NRA experiment. I felt there was nothing left to be done except to support the NRA movement.

I have now come to the conclusion that that time has passed. I regret this very much, because the readjustment will be difficult.

The trouble behind it all is the fact that the Administration has supported, in an extreme manner, the interests of the organizers and agitators of labor.

I have, in my limited way, supported Franklin D. Roosevelt's Administration and the NRA, but because of this socialistic situation which now exists, I consider any effort useless.

There is no doubt whatever in my mind that at least 75 per cent of those classed as strikers are not really strikers, and would welcome an opportunity to return to work, which would bring happiness and comfort.

G. E. REYNOLDS
Vice president and General Manager

Working For Nation's Welfare

HARDIE-TYNES MANUFACTURING CO.
Birmingham, Ala.

EDITOR MANUFACTURERS RECORD:

I believe Mr. Edgerton's article in the July issue of the MANUFACTURERS RECORD is very timely and certainly the attitude of your publication is wielding a splendid influence for the protection of Southern Industry.

Certainly hope you will keep up the splendid work you are doing in the interest of the South and the nation.

R. C. STOBERT,
Vice-President and General Manager.

THE MANUFACTURERS RECORD invites constructive discussions of the problems affecting business and the nation's welfare. It is by the broadest dissemination of such views, based on facts, that some of the confusing questions of the present can be clarified.

To Protect the South Against Discrimination

Southern States Industrial Council
Executive Committee—J. E. Edgerton, President, Lebanon Woolen Mills, Lebanon, Tenn.; Wm. D. Anderson, President, Bibb Manufacturing Company, Macon, Ga.; Donald Comer, President, Arondale Mills, Birmingham, Ala.; S. L. Durham, Louisville, Ky.; R. C. Stobert, Vice-President, Hardie-Tynes Mfg. Co., Birmingham, Ala.

Nashville, Tenn.

EDITOR MANUFACTURERS RECORD:

We have received some very complimentary letters from all over the South in regard to Mr. Edgerton's article, "To Protect the South Against Discrimination," published in your July issue. We have had a great many calls for this particular story and want 3,000 reprints.

MARGARET MAGER,
Research Director.

Business Conditions Better Than Year Ago

NATIONAL COTTONSEED PRODUCTS ASSOCIATION
Memphis, Tenn.

EDITOR MANUFACTURERS RECORD:

Business conditions throughout the South are much better than they were even a year ago. At least the prices for farm products are up 100 per cent or more, and the income from even a shorter crop, plus donations by the Government, should insure a better buying power. There is one distressing feature, and that is the terrific ravages the heat and drouth have made in the grain crop West of the Mississippi River.

I recently made an automobile trip through North Texas and a part of Southern Oklahoma, and believe that there will be almost a complete failure of corn in that section. Those regions East of the River in the South seem to be faring much better in that respect. I can't become greatly concerned about the effect of the dry hot weather on cotton. Those portions of Texas and Oklahoma I visited had good sized stalks, and the dry weather will probably be beneficial to a large extent. It is probable that the rains in the Southeast have been a greater disadvantage.

S. M. HARMON,
Secretary.

(Since Mr. Harmon's letter was written, the continued drouth has caused greater damage to crops.)

CONVERSE BRIDGE & STEEL CO.

Chattanooga, Tennessee

Structural Steel for all Industrial Structures,
Buildings and Bridges.

LARGE STOCK FOR IMMEDIATE SHIPMENT

AUSTIN BROTHERS BRIDGE CO.

Structural Steel and Ornamental Iron
Bridges, Reinforcing and Guard Fence

ATLANTA, GEORGIA
Oakland City Station

STRUCTURAL STEEL for BUILDINGS and BRIDGES

Capacity 1000 Tons per Month. 3000 Tons in Stock
Carolina Steel and Iron Company

The Largest Steel Fabricators in the Carolinas
Greensboro North Carolina
Sales Office: 709 Nissen Bldg., Winston-Salem, N. C.

STEEL PLATE CONSTRUCTION TANKS STACKS DREDGE PIPE

Acid Tanks	Digestors	Jacketed Tanks	Settling Tanks
Breechings	Dryers	Molasses Tanks	Standpipes
Condensers	Filters	Oil Storage Tanks	Stillas
Coolers	Gasoline Tanks	Pressure Tanks	Vacuum Tanks

LANCASTER IRON WORKS
LANCASTER, PA.

Snead Architectural Iron Works

STRUCTURAL STEEL
ORNAMENTAL IRON

LOUISVILLE, KY.

Bristol Steel & Iron Works, Inc.

STRUCTURAL STEEL

For Bridges, Buildings and All Industrial Purposes

Steel Plate and Miscellaneous Iron Work
Complete Stock Shapes, Plates, Sheets and Bars for
Immediate Shipment

BRISTOL, VIRGINIA-TENNESSEE
"SAVE WITH STEEL"

SEWER PIPE
CULVERT PIPE
DRAIN TILE
WALL COPING
METER BOXES



FLUE LINING
SEPTIC TANKS
FIRE BRICK
GRATE BACKS
FIRE CLAY

We solicit your inquiries

LEE CLAY PRODUCTS COMPANY
CLEARFIELD, Rowan County KENTUCKY

FIRE CLAY, SEWER PIPE, FLUE LINERS and WALL COPING

Write for Catalogue and Discounts

Owensboro Sewer Pipe Co. Owensboro, Ky.



FLOATING EQUIPMENT

Illustration shows large steel Wharf Boat recently constructed by Ingalls for the Port of Greenville, Miss. The hull is 230' long, 55' beam and 10' deep, welded solidly throughout using no rivets whatever. The vessel is mounted with a transit shed 48' x 200', provided with grain handling equipment and hoisting rigs for operation of an up-to-date river terminal.

Write Ingalls for attractive prices on Steel Barges, Scows, Lighters, Pontoons, Dredges and commercial boats of all kinds for service on Gulf Coast or Inland Waterways.

The Ingalls Iron Works Company

Main Office and Plants: Birmingham, Ala.

Eastern Plant: Verona, Pa. (in Pittsburgh Dist.) Branch Sales Offices:

New York, New Orleans, Tampa

Assembly Yard and Launching Ways, Mobile, Ala.

Red Shale Face Brick

Smooth and Rough Textures

Finest Quality—Finest Color

Fire-flashed—Wide Range of Color

Plainville Brick Company, Inc., Plainville, Ga.

SAND—GRAVEL—BRICK FILTER GRAVEL

Washed Sand and Gravel for Concrete
Roads and Buildings

Filter Gravel, all sizes—Building Bricks

FRIEND & CO., INC. River St., Petersburg, Va.

BELMONT IRON WORKS

PHILADELPHIA

NEWYORK

EDDYSTONE

Southern Sales Offices, Charlotte, N. C.

Engineers . Contractors . Exporters

STRUCTURAL STEEL
BUILDINGS AND BRIDGES
RIVETED-ARC WELDED
BELMONT INTERLOCKING
CHANNEL FLOOR

Write for Catalogue

Main Office—Philadelphia, Pa.

New York Office—44 Whitehall St.

INDUSTRIAL NEWS

Charleston Dry Dock Company

Incorporated July 2 under the laws of South Carolina, the Charleston Dry Dock Company, of Charleston, S. C., superseding the old Charleston Dry Dock & Machine Company, will engage in the same line of business as the old company, that is, the building of all-welded vessels and general repairs. At the present time, it is building an all-welded river steamer for export to South America, and has secured a contract to build a 150-foot all-welded steel oil tanker for Boston interests. Officers of the Charleston Dry Dock Company include: C. V. Boykin, president; S. A. Guilds, vice president, and R. A. Kessler, secretary and treasurer.

Allis-Chalmers Moves Chicago Office

The Allis-Chalmers Mfg. Co., Milwaukee, Wis., announces the removal of its Chicago district office to the new Field Building, 135 S. LaSalle Street. B. F. Blisland is manager of the Chicago District.

Double Glazed Windows

Through a newly organized subsidiary—The Thermopane Company—Libbey-Owens-Ford Glass Company, Toledo, Ohio, is acquiring a revolutionary type of double glazed window, known as Thermopane, which is said to substantially reduce heat loss through windows and to prevent frosting in cold weather. The product consists of two panes of glass so fitted to each window sash that it provides a dehydrated air space between and reduces the flow of heat and cold. It is said to have been applied successfully in solving problems of air conditioning, and is expected to have a widespread effect upon window construction in new homes and buildings. For the past four years Charles D. Haven, of Milwaukee, has produced the new type window, and it is from him that the business is being acquired.

Buys Mitchell Diamond Drill Company

The Chicago Pneumatic Tool Company, 6 East 44th Street, New York, which has served as general sales agent for the Mitchell Diamond Drill Company, Ltd., San Francisco, Cal., for about two years, announces that it has purchased the patents, goodwill and tangible assets of that company and has taken over its personnel. Mitchell Diamond Drill, parts and fittings, as well as "ready-set" bits, will continue to be manufactured at San Francisco for the present, but later the Chicago Pneumatic Tool Company will transfer manufacturing operations to its Detroit plant where CP Rock Drills and Pneumatic Hammers are made.

16 Bales Cotton In Conveyor Belt

Nearly one-fourth of a mile long (1291 feet) and 4 feet wide, a single piece rubber conveyor belt has been built for a limestone plant by the Manhattan Rubber Manufacturing Division of Raybestos-Manhattan, Inc., Passaic, N. J. The belt contains more than 5000 square feet of tough rubber and is 7 by 9 ply heavy duck construction with a 1/4-inch reinforcement on top and a 1/16-inch reinforcement on back. Sixteen bales of raw cotton were used in making it. It weighs 11 tons and will deliver 1500 tons (136 times its own weight) of crushed limestone every hour.

Assistant General Manager

William Robert Ellis has been appointed assistant general manager of the Explosives Department of the Hercules Powder Company, Wilmington, Del. The Hercules Mixer, official publication of the company, contains a brief sketch of Mr. Ellis showing he joined the organization in 1915 as a salesman. He subsequently became technical service man and in 1930 was made assistant manager of the San Francisco office, being transferred to the home office of the company in October, 1933.

Sivyer Steel Opens Eastern Office

The Sivyer Steel Casting Company, Milwaukee, Wis., has opened an office at 500 Fifth Avenue, New York, in charge of A. N. Diecks. This office will handle particularly the products the Sivyer Refinery Division, consisting of Sivyer steel return bends, special refinery fittings, alloy tube supports, and Sivyer stainless steel castings for refinery use.

New Officers For Houghton Co.

At a special meeting July 20 of stockholders of E. F. Houghton & Company, oil and leather manufacturers, Philadelphia, Pa., the office of Chairman of the Board was created and Louis E. Murphy, a former president was elected to the position. Mr. Murphy has been with the company 44 years, serving as president since 1929. Major Aaron E. Carpenter was elected general manager and president. He has been with the company 29 years and was a member of the original Board. In 1929, he became first vice president. As president of the company he represents the third generation of Carpenters to occupy that position. Other officers elected were: George W. Pressell, vice president and director of sales; A. Everly Carpenter, 3rd, secretary; Dr. R. H. Patch, treasurer; C. P. Stocke, assistant secretary; Miss M. M. Menningen, assistant treasurer.

(Continued on page 46)

INDUSTRIAL

If you are seeking a NEW or BRANCH plant location.—Why not consider.—

FLORIDA

Where working and living conditions are IDEAL.

We offer for SALE or long term LEASE excellent locations with RAILROAD TRACKAGE (some improved) at

MIAMI

Fort Pierce

West Palm Beach

Fort Lauderdale

Stuart

Lake Worth

St. Augustine and other points along the East Coast

For detail information write

Model Land Company

Flagler System


St. Augustine, Florida

DAVIS


CYPRESS TANKS

FACTORY TANKS AND STEEL TOWERS

If you handle liquids, for storage or processing, Davis Cypress Tanks very likely will provide new economies. For water, common chemicals, or for mixing and storing solids and compounds. Industrial plants and railroads have used our tanks for 46 years. Ask for estimates and catalog—both sent promptly on inquiry.



G. M. DAVIS & SON
P. O. Box 5, Palatka, Florida



SOUTHLAND

PRODUCTS

—WELDED OR RIVETED—



WELDED OR RIVETED CONSTRUCTION

We now manufacture and offer to the trade tanks in all sizes for pressure or gravity work. Also other steel equipment of either

This applies to field as well as shop built equipment.

Write us for information and quotations.

Million gal. Tank at White Sulphur Springs, W. Va.

CHATTANOOGA BOILER & TANK CO.
CHATTANOOGA, TENN.

WATER FILTERS

Pressure and Gravity type for Municipal Water Supplies, Rayon Manufacturing Plants, Textile Finishing Establishments, Raw Water Ice Plants, Laundries, Etc.

ROBERTS FILTER MANUFACTURING COMPANY
604 Columbia Avenue
Darby, Pennsylvania

Filtration and Pumping Equipment

For Water Works and Swimming Pools
Sales and Installation

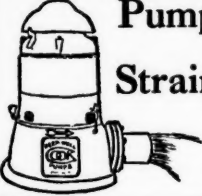
BURFORD, HALL AND SMITH
140 Edgewood Avenue, N. E.,
Atlanta, Georgia

Water Purification Plants

Any Type—Any Purpose—Any Capacity

Dry Chemical Feed Machines
Swimming Pool Filters

E. W. BACHARACH & CO.
Rialto Bldg.
Kansas City, Mo.



Pumps—Deep-Well Plunger and Turbine
Strainers—and other well supplies

WATER PRESSURE SYSTEMS
A. D. COOK, INC.
Lawrenceburg, Indiana

COLE



Correct in Design Erected

We are prepared to submit designs to meet any special requirements for tanks and towers whether on building, odd location or requiring auxiliary units.

COLE tanks offer very distinctive advantages in both design and workmanship. They meet the exacting requirements of all insurance authorities.

Our Engineering Department with an experience of 56 years will be glad to cooperate with you.

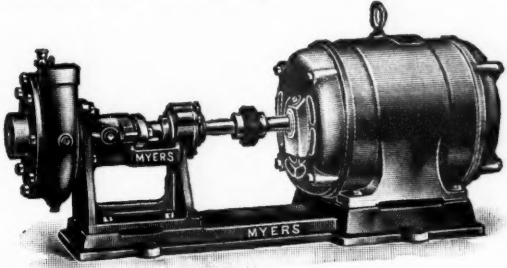
Cole Elevated Tank erected for Mobile Water Works.

R. D. COLE MANUFACTURING CO.
Established 1854
NEWNAN, GA.
New York Office,
5 Beekman St.

OUTSTANDING PERFORMANCE!

Again Myers engineers have triumphed in the development and introduction of Myers Centrifugal Pumps. Precision, balance and smoothness of operation are matters of record. High efficiency and absolute dependability are thoroughly established. Performance has been outstanding. Users everywhere report complete satisfaction. This briefly, is the answer to the success of Myers Centrifugal Pumps and their rapid acceptance by industry and agriculture the country over.

Our new Centrifugal Pump Catalog, No. CT34, is complete with illustrations and descriptions of the different styles and sizes in which Myers Centrifugal Pumps are now built. If you have not received a copy and desire detailed information write us immediately.



THE F. E. MYERS & BRO. CO.
ASHLAND, OHIO.

Recent CHEMICAL Developments VI

1. A NEW MARINE PAINT

Tornesit, a chlorinated rubber, resin-like material offers great advantages as a marine paint because of its high resistance to water. It adheres well to wood, metal, or concrete.

2. EASY BRUSHING VARNISH

Dipentene No. 122 produces a flow and ease of brushing in varnishes made with synthetic resins that is obtained with few other solvents. It improves the wetting and grinding of pigments and produces stable suspensions and a minimum of settling. Its rate of evaporation is uniform.

3. STIFFENER FOR HATS AND CLOTHING

Nitrocellulose lacquers are excellent stiffeners for fabrics and they make the fabric waterproof. There are many undeveloped possibilities for their use in the clothing industry for stiffening or sizing fabrics of all kinds.

4. COLLOIDAL WAX SIZE

Paracol is a water-dispersible emulsion of colloidal wax in stable form. It is white, tasteless, and odorless, and can be added in the sizing tub or used in the coating mixture. It improves printing surfaces and is suitable for use in papers intended for food protection.

5. SUPERIOR TO ANIMAL GLUE

Adhesives made from nitrocellulose are more expensive than animal glues but their resistance to moisture and greater binding strength make them far more efficient under certain conditions.

6. ECONOMICAL, POWERFUL THINNER

Hercules No. 22 Thinner is a powerful solvent, with a Kauri Butanol value of 55-65. Because of its high terpene content, it has most of the advantages of terpene solvents. It can be blended with petroleum thinners, turpentine, and coal tar thinners, because it is completely miscible with these solvents.

7. BETTER WEARING THREAD

To increase the wearing qualities of thread in sewing machines it is stiffened with nitrocellulose lacquer and then polished.

8. ODORLESS LACQUER

Hercolyn has a faint ester-like odor, but when added to most products, especially nitrocellulose lacquers, this odor is not apparent. A sweat-drying treatment will make lacquer containing Hercolyn completely odorless.

More detailed information on any of the above subjects may be secured by filling in this coupon.



HERCULES POWDER COMPANY
INCORPORATED
Wilmington, Delaware

I am interested in items numbered:

Name

Address

Company

IN-16-M

INDUSTRIAL NEWS

(Continued from page 44)

Permite Leaded Phosphor Bronze Bars

Through the development of Permite Leaded Phosphor Bronze Bars, a forward stride has been made possible in the production of special bearings, bushings, fittings and small parts, according to Aluminum Industries, Inc., Cincinnati, Ohio. These bars are available in standard six-foot lengths in diameters from 5/8-inch to 2 inches, by 1/16-inch steps.

Socony-Vacuum To Expand In South

To meet "greatly improved conditions of industry and agriculture in this region," The Socony-Vacuum Oil Company, Inc., New York City, announces a wide-spread program of business expansion in the South. A new policy of direct sales by the company of its lubricating products in this territory has been instituted; divisional offices have been opened in Baltimore, and new warehousing and distribution facilities have been established in key points in Maryland, Virginia, West Virginia, North Carolina, South Carolina and the District of Columbia. The entire program, calling for large expenditures, was instituted after an extensive survey by the company, which is among the world's largest marketers of lubricating oils. C. G. Swank has been appointed general manager of the Southeastern Division of the company, and Fred Callahan, who has been connected with the sale of Socony-Vacuum products in Southern States for many years, has been appointed sales manager of the Mobiloil Division of the company in Baltimore.

Advantages of Nickel Cast Iron

In a recent survey of industrial fields in the Southeastern and Gulf States, the International Nickel Company, Inc., of New York City, found that among producers and users of cast iron there was need of special consideration of conditions peculiar to them. The July Nickel Cast Iron News, an official publication issued in the interest of producers and users of cast iron, features an article entitled "Making Better Cast Irons Presents No Problem to Foundrymen," and another entitled "Southern Industries Cut Costs by Use of Higher Grade Materials."

Austin No. 8 Maintainer.—The Austin-Western Road Machinery Company, Aurora, Ill., is distributing an illustrated folder devoted to one of its newest grader units—the Austin No. 8 Maintainer—which is described as "the most rugged, highly simplified and easiest operating maintainer of its size, designed from the ground up to work exclusively as a one-man patrol."

Troy-Engberg Generating Sets.—Bulletin No. 107, devoted to Troy-Engberg Generating Sets, has been issued by the Troy Engine and Machine Company, Troy, Pa. The publication covers a wide range of sizes, both vertical and horizontal engine driven machines in direct and alternating current and for both stationary and marine service.

Road Maintenance and Construction Equipment.—Littleford Bros., Cincinnati, Ohio, have issued a 24-page catalog devoted to road maintenance and construction equipment which they manufacture. Known as Catalog J, the publication is the most complete ever prepared by the company.

I-Beam-Lok Armored Roadway Slabs.—Research by the Carnegie Steel Company, Pittsburgh, Pa., to develop a lighter, more rugged, less costly and highly efficient combination steel and concrete bridge roadway slab of heavy duty floor, has resulted in

the production of the I-Beam-Lok Armored Construction, which takes advantage of the principle of the strength of the I-Beam. This construction is described and its applications illustrated in a 24-page catalogue issued by the company.

Whiting Impact Pulverizers.—Bulletin No. 13, issued by the Whiting Corporation, Harvey, Ill., covers Whiting Impact Pulverizers, which have a wide application of service in foundries, chemical plants, boiler plants, etc.

Blaw-Knox Autoclaves.—The Blaw-Knox Company, Pittsburgh, Pa., has issued catalog 1482, illustrating and describing Blaw-Knox Autoclaves, in the production of which the engineering department of the company gives careful study to conditions surrounding the operation of the vessel in actual service, as well as to its design and fabrication.

Link-Belt Literature.—Literature recently released by the Link-Belt Company, Chicago, Ill., includes a 16-page illustrated catalog No. 1462, devoted to the company's line of vibrating screens for the effective screening of such materials as sand, gravel, stone, coal, coke, clay, fertilizer, cement, etc., and a 16-page illustrated catalog No. 1505 on Locomotive Cranes.

General Electric Air Conditioning.—Practical air conditioning systems built and sponsored by General Electric Company, Schenectady, N. Y., are described and applications illustrated in a booklet now being distributed by the company. By scientific research and development, these systems have been brought within the cost reach of the small store, the single office and the home.

Pneumatic Tools.—Under the title of "The World's Most Popular Pneumatic Tools", Ingersoll-Rand Company, New York City, has issued an 8-page bulletin (2037-A) listing for the first time the company's new sizes of "Multi-Vane" drills and "Multi-Vane" push-throttle screw drivers and nut setters, and also illustrating and presenting size-and-capacity tables of I-R pneumatic drills, grinders, riveters, chippers, rammers, wrenches, hoists, etc.

World Chemical Survey.—"World Chemical Developments in 1933 and Early 1934" is the title of an 84-page booklet issued by the Chemical Division of the Department of Commerce, Washington, D. C., C. C. Concanon, Chief. The publication presents a world survey of chemical and allied products developments, covering 27 countries.

Pointers For Rock-Drillers.—The foregoing is the title of a 157-page book illustrating and describing the Ingersoll-Rand line of drilling and other machinery, with engineering tables and data. The publication is issued by the Ingersoll-Rand Company, 11 Broadway, New York.

T. V. A. Geologic Bulletin.—Geologic Bulletin No. 1, has been issued by the General Engineering and Geology Division, of the Tennessee Valley Authority, Knoxville, Tenn. The publication was prepared by Edwin C. Eckel, Geologist, T. V. A., and covers engineering geology and mineral resources of the Tennessee Valley Authority region. It is to make available a summary of the present knowledge of the chief mineral resources in the development of fuels, metals, fertilizers, chemicals, ceramics, pigments, abrasives, and miscellaneous industries in the territory tributary to the dams and power plants of TVA.



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PROPERTY TAX BURDEN

THE excessive burden of farm property taxes could be lightened in one or more of three ways, says the Bureau of Agricultural Economics in a report on *The Farmers' Tax Problem*, published as House Document 406. One way is to reduce the number of local governmental units; a second way is to combine governmental functions, and reallocate them as between State and counties; and a third way suggested in the report is to put more of the revenue load on sources other than general property.

Definite possibilities for the reduction of public expenses, picked from the results of studies, are suggested in the report. Among these are: The substitution of a rural county-unit school system for the present school-district system; turning over road administration from townships to counties; and merging counties and townships into bigger units.

The report discusses the personal income tax as a possible means of reducing the taxes on real estate and in that way giving the farmer relief at the time he needs it most, when his income is low. Such a change would help toward a solution of the problem, says the report, provided government expenditures are kept down at the same time. That reaches the heart of the tax problem for all recent efforts have been directed toward new sources of revenue instead of a reduction of expense. The sales tax although not mentioned in the report, is another solution of the property tax problem provided of course that the amount of the sales tax be used to reduce the property tax levy.

The bureau presents statistics to show that farm taxes in relation to farm realty values are more than double what they were in 1913, and that taxes in recent years have taken a large part, and in many cases all or more, of the income from farming.

Taxes per acre of farm real estate reached a peak in 1929 at 241 per cent of the tax per acre in 1913. Taxes have declined since then to 163 per cent of pre-war, but up to the past year, land values had declined relatively more, thus increasing the burden of the tax in relation to the value of property. Estimated values of farm real estate per acre increased 4 per cent in the last year and taxes declined about 13 per cent, thus reversing for the first time in

fifteen years, the trend of taxes relative to land values.

The trend of farm property taxes relative to the trend of prices of farm products and of income in agriculture shows even more strikingly the increase in the farm tax burden. In 1932, gross income per acre from farm production was \$4.08, compared with \$7.73 in 1913 and \$12.24 in 1928, the 1932 figure being 44 per cent below that of 1913 while taxes per acre were 89 per cent above pre-war. In 1932 the gross income from 9 acres was required to pay the taxes on 100 acres of land, whereas the gross income from only 3 acres was sufficient in 1913. Improvement is noted for 1933, income having increased and taxes declined, with the result that the number of average acres, the gross income from which was required for the real estate taxes on 100 acres, was reduced from 9 to 6.

An alarming growth of tax delinquency in recent years has resulted from the excessive burden of taxes, as revealed in a survey of 1040 counties in 18 States that showed there were two and one-half times as many tax delinquent farm properties in 1932 as in 1928.

Detailed field studies recently completed in the South by the Southern Forest Experiment Station, New Orleans, discloses a serious situation exists in some sections. Director E. L. Demmon, in calling attention to a discussion of the "Reversion of Forest Land for Taxes" by R. B. Craig, assistant forest economist, points out that private forest land is rapidly finding its way into public ownership on account of non-payment of taxes. As of July, 1933, it is estimated that there were 19,238,000 acres in seven Southern States which had reverted to public ownership through tax delinquency, of which 12,272,000 acres were forest lands valued at more than \$50,000,000. Withdrawal of this huge taxable land area from the tax rolls of the several States has a direct influence on the tax burden which must be borne by the remaining taxable property.

Mr. Craig shows that for the seven States as a whole, the forest land forms 64 per cent of the total reverted 19,238,000 acres, and he states:

"The effect of such wholesale reversion of forest and agricultural land is patent to anyone. Not only does it render the continued existence of local government precarious, but it also increases the tax burden on the land which is not delinquent. That this is no straw man set-up to be knocked down can be shown by a study of tax

rates levied over the past five years in the counties affected by such excessive delinquency. This increase in taxes is a well-known fact to many timberland owners in the South. In many cases, State and county general tax rates have not increased materially, but road, school, bond, improvement, and similar special district tax rates have been in some cases increased over 100 per cent in this period.

"To aid in solving this problem and others growing out of it, the Southern Forest Experiment Station of the U. S. Forest Service is engaged in cooperation with the several States in a study of this "New Public Domain" arising through tax-delinquency to determine:

1. The location, extent, and status of tax reverted lands.
2. The potentialities of reverted lands for forest or other crop production.
3. The desirable line between Federal, State, and local public ownership and private ownership.

"The ultimate purpose is to work out and recommend practical measures for handling and using reverted lands.

"The problem of tax delinquency has reached alarming proportions in several Gulf States and unless solved by aggressive action on the part of public officials, taxpayers, and interested agencies it will threaten the economic stability not only of the lumber industry, farming, and manufacturing, but of local government itself. One factor in the growth of this phenomenon has been, and still is, the general apathy of public officials toward a solution, an apathy engendered in large measure by the laws and practices governing procedure in tax-delinquency. Many of these laws and practices are open invitations to use delinquency as a legal means to tax-evasion or reduction, while others are merely an extreme case of a laissez-faire policy of tax administration. Neither of these conditions can continue if the tax structure of State and local governments is to continue to provide revenue. Another factor causing tax-forfeiture is the past misuse and other exploitations of natural resources, a misuse born in many cases of inequitable taxation. These two factors can and must be solved before future increases in the New Public Domain can be stopped."

These facts indicate plainly that taxation presents one of the most important problems confronting farmers as well as all property owners and that some practical means to help meet it is urgently needed. The problem, it is stated, is due primarily to increased expenditures for State and local purposes, and to continued dependence on the general property tax as a means of raising nearly four-fifths of the combined tax revenues of State and local governments, and about nine-tenths of the revenues of the latter.

Under the pressure of high rates and administrative difficulties, the property

(Continued on page 52)

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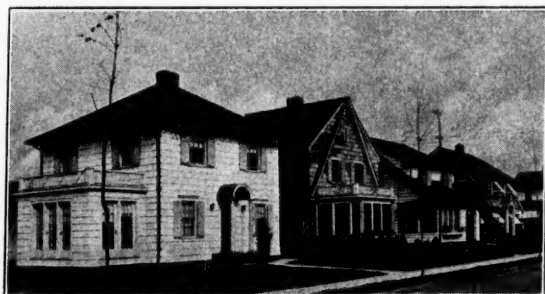
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PROPERTY DESTROYED BY INSECTS

Termites, commonly known as white ants, or flying ants, infest hundreds of thousands of buildings and cause an estimated damage of \$50,000,000 a year. They can be controlled best by proper chemical treatment of lumber and timber entering into new construction, and by direct application to areas in existing structures susceptible of infestation.

MORE than 25 States are seriously infested with termites, property-destroying insects that work in secret, which cause damage to wooden structures to the extent of more than \$50,000,000 annually. In some cities eight of every ten homes are found infested, being eaten away by millions of termites, the most ravenous and one of the most difficult to exterminate of all pests.

Termites are an age-old menace. Their

insidious destructive tactics, now more than ever before are reaching startling proportions. Formerly termites lived in the forests, but in the introduction of modern buildings, close to the ground and heated, they have found conditions ideally suited for the rapid propagation of their colonies. While the principal food for termites is the cellulose in wood, they attack clothing, shoes, rugs and paper.

Authorities say that termites, commonly known as white or flying ants, are not ants and do not even belong to the same family. In fact their worst natural enemy is the ant. There are about 1,000 species of termites, 46 of which are found in the United States. The subterranean species that cause the greatest damage in this country is a blind insect, creamy white, wingless, with noticeable jaws and seldom over one-quarter of an inch in length. They live below the frost line and feed on any article containing cellulose. As they work in the dark, thrive in the ground, and eat only inside the wood, the damage they do is seldom suspected until it has been done. Termites usually start in the wood on the side farthest from the light and gradually eat away the interior, never destroying the surface by eating through if it can be avoided. If they should happen to break the surface they immediately seal it with a mixture of earth and partially digested excreted wood. This is done to protect them from the light and predatory insects, and also to preserve the humidity in their channels.

The real reason for the amount of damage that is being done is that it is hidden and the owner knows nothing of it until a loose board, "dry-rotted" as it is often misnamed, is found. Going into this to repair, it is often found that what looks like a minor job runs into hundreds and even thousands of dollars to get out the affected wood.

Subterranean termites must have moisture. They

need to get started in a building at only one spot. After the termite gets a start he will arrange to take care that he gets the moisture and at the same time makes for himself a livable condition. They build hollow runways or tunnels to connect up moisture in the ground to the food in the wood above the ground.

In the spring especially, swarms of "flying ants" may be seen. This is the real termite, but it is not his business to feed on your property. The function of the "swarmer" is to move from the present location and form new colonies. This does not mean that the white termite has turned into the flying type. The little white termite is sterile. The swarmers are breeders. They shed their wings and breed to form new colonies at other infested spots, leaving behind the working white termites to continue their destruction.

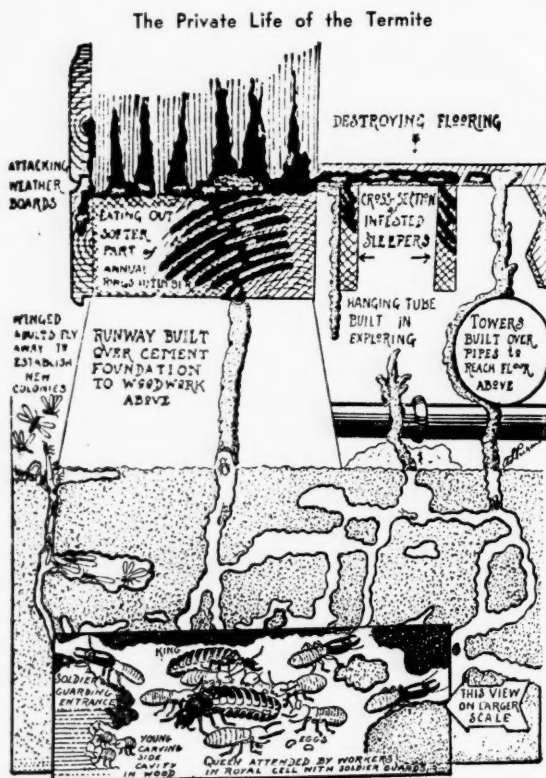
For years it has been supposed that the swarmers were the only means of new infestations. It has been found that this is only the minor means of infestation. It is known that white "workers" and "soldiers" travel underground from house to house setting up their new colonies in this way. One infested house in a neighborhood can easily spread this pest to every piece of surrounding property. If termites ever get in the wood beneath a building, in a space of time they will, in all probability, attack the building itself.

What can be done to combat this insidiously destructive pest? The first thing is to have your property inspected by a reliable termite expert. There is some information on the subject but most people are not posted. Dr. T. E. Snyder, head of the termite division of the U. S. Bureau of Entomology, is considered the world's foremost authority on termites. Several bulletins have been issued by the Bureau, but no bulletin or letter issued has ever given any formula for a perfect extermination of this pest. However, there are several practical methods of termite control.

(Continued on page 52)



Damage Caused by Termite and Rot



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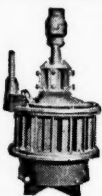
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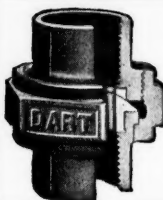
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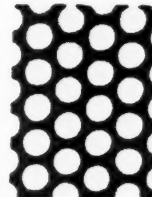
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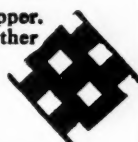


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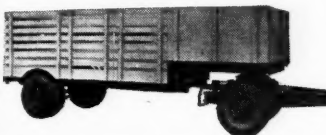
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Property Destroyed by Insects

(Continued from page 50)

Evan L. Fellman, termite control manager of E. L. Bruce Co., the world's largest manufacturer of hardwood flooring, Memphis, Tenn., points out that in spite of the fact that termites are today causing damage to woodwork of homes and buildings in all except a few of our most northern and eastern States, they apparently remain much of a mystery to the majority of property owners and even to builders, architects and lumber dealers.

Termite damage has been and still is frequently mistaken for "dry rot," although the appearance of the damage to one acquainted with it is entirely different from the appearance of damage caused by rot producing fungi. There is evidence to support the contention that termite activity in some degree at least may today be found in approximately 50 per cent of standing structures.

Generally speaking, there are two methods of controlling termites in infested buildings. The first is by making changes in construction and through use of concrete and metal termite shields over foundation walls.

The second method of controlling ter-

mites is by chemical means. Chemical impregnation of wood used in construction and chemical treatment of infested and surrounding areas. The important questions to consider are the proper chemical to use and the responsibility of the manufacturer of the product and the organization doing the work.

The legitimate termite control operator should be looked upon as a competent professional trained for the work. Proven termite treatments may be counted upon to be worth several times their cost, in that they will save the much higher expense of repairs and replacements which invariably result when termites are allowed to proceed unmolested.

Property Tax Burden

(Continued from page 48)

tax has come to be little more than a real estate tax, since large amounts of personal property—principally intangibles—escape taxation. The farmer's property consists of real estate and tangible personals such as livestock and farm implements, which cannot be hidden from the tax assessor nor removed to another taxing jurisdiction. Hence his property does not escape taxation, and his dependence on these forms of property makes him especially

subject to the "general" property tax. In like manner, the owner of a home or other real estate in urban centers is compelled to carry a heavy tax burden.

Concluding, the bureau says there is need for a clarification and restatement of State and Federal relationships in taxation, recognizing the importance of avoiding harmful double taxation with detrimental economic and social effects. The central aim, it is stated, should be to achieve ultimately a revenue system in which local, State, and Federal taxes would be coordinated into some logical scheme.

The greatest need is for a reorganization of local governmental units, eliminating duplication of personnel and bureaus, and consolidating local units to bring about greater efficiency and reduce the cost of government. Lower taxes, not transference of tax levies from real estate to some other source, is the goal. But as to the necessity of tax reform, the head of a great manufacturing enterprise, makes this timely comment: "Much is written and talked on this subject but so far little practical result has followed. It can hardly be questioned that one of the essentials to permanent prosperity is a substantial scaling down of unnecessary and undesirable expenditures and this goes for both Federal and local governments."

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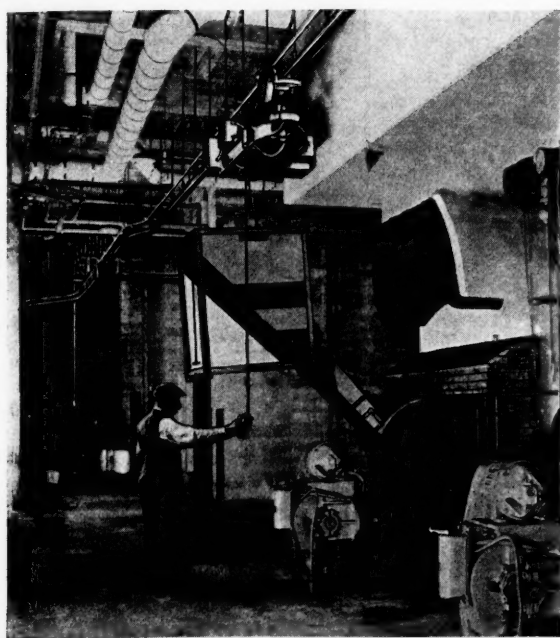
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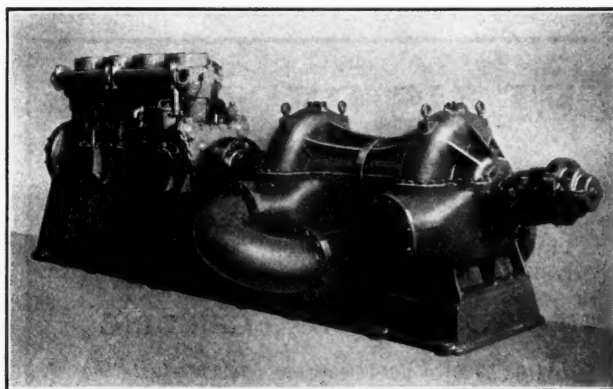
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South Louisiana Oil Fields

(Continued from page 21)

Magnolia Petroleum Corporation, Gulf Refining Company, Superior Oil Company of California, Continental Oil Company, Rio Bravo Oil Company (Southern Pacific Railroad), Amerada Petroleum Company, Danziger Oil and Refining Company, Shell Petroleum Corporation, Atlantic Oil Producing Company, Stanolind (Standard of Indiana), United Gas Public Service Company, Standard Oil Company of Louisiana, Texas Gulf Sulphur Company, Freeport Sulphur Company, Tidewater Oil Company, Rycade Oil Company, Pure Oil Company, The Texas Company, Barnsdall Oil Company, Strake Oil Company, Standard Oil of Kansas, Ohio Oil Company, Cranfill and Germany, Benedum-Trees Oil Company, Mills Bennett Oil Company, Sun Oil Company, Yount Lee Oil Company, Union Sulphur Company.

OIL PRODUCTION (Barrels)

	North Louisiana	South Louisiana
1927.....	18,134,852	5,032,400
1928.....	14,837,135	7,183,260
1929.....	13,154,935	7,466,893
1930.....	14,298,534	8,681,089
1931.....	11,964,015	9,661,053
1932.....	9,849,925	11,167,260
1933.....	9,962,540	15,540,341

By the proration order issued Novem-

ber 10, 1933, in accordance with instructions from the Secretary of the Interior, Harold Ickes, South Louisiana is allocated nearly twice as much production as North Louisiana—44,528 barrels a day as compared with 24,300.

The South Louisiana parishes which were producing oil at the end of last year, the names of the different fields, the number of producing wells in each, and their daily production are given in this table, compiled from Conservation Department statistics:

SOUTH LOUISIANA OIL FIELDS December, 1933

Parish	Field	No. Wells	Daily Output (bbls.)
Acadia	Evangeline	31	928
Ascension	Darrow	1	15
	Sorrento	3	43
Calcasieu	Edgerly	18	175
	Lockport	28	2,333
	Starks	18	1,467
	Sulphur	34	2,800
	Vinton	78	3,500
	Iowa	16	12,953
Cameron	Black Bayou	3	938
	Cam. Meadows	1	251
	E. Hackberry	49	4,890
	W. Hackberry	19	380
	Sweet Lake	5	1,167
Iberville	Choctaw	4	306
	White Castle	3	867
Jeff. Davis	Welsh	11	47
Lafourche	Leeville	4	1,913
Plaquemines	Grande Ecaille	6	563
St. Landry	Port Barre	15	2,005
St. Martin	Anse La Butte	3	40
Terrebonne	Caillou Isl.	2	247
	Lake Barre	14	6,667
	Lake Pelto	1	47
Vermillion	Gueydan	4	383

A total of 371 wells pouring out a

daily average of 44,925 barrels of oil.

More production has come in this year. All the figures have not yet been assembled, but there are details on a few of the more important strikes in 1934:

A new field in Jefferson Davis parish, near Roanoke, was proved by the bringing in of Shell Petroleum Corporation's Kratzer No. 1 at the astonishing depth of 8,682 feet. This is considered by oil men and geologists to be one of the most important strikes in the development of the entire Gulf coast. Already a number of wells are going down in the Roanoke field.

Another important strike was made a few weeks ago near Bosco in Acadia parish. Superior Oil Company's Hernandez No. 1 brought in 750 barrels a day at the depth of 7,853 feet. At least six wells are being pushed down in this territory.

Less than 30 miles from the New Orleans City Hall—as the crow flies—the Gulf Refining Company has found production on the Lake Hermitage dome. This is in Plaquemines parish. No official figures.

In Terrebonne parish, the Bay St. Elaine dome proved itself a producer this year. No official figures.

(Continued on page 56)

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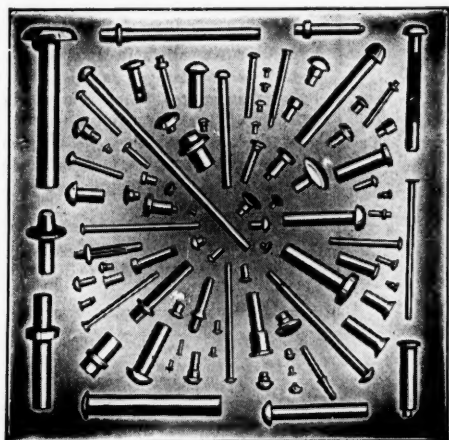
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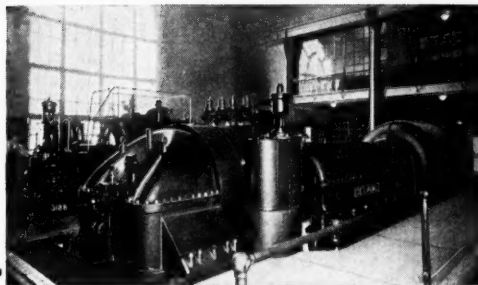
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Repairs to
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South Louisiana Oil Fields

(Continued from page 54)

Said Mr. Dean:

"Present conditions presage for 1934 the greatest strides in all phases of the history of the development in Louisiana. More pipe lines are being laid or contemplated. Indications point to a higher degree of interest in development around a number of the old established salt domes as several of the major companies and individuals have already shown a tendency toward acquisition of flank acreage and drilling for off-side production."

He believes that South Louisiana is still "virgin oil territory" because of the possibilities of oil at deeper horizons "as demonstrated by Iowa, Bosco and Roanoke" and also because of the possibilities of the Conroe trend." Further exploration, he says, will probably bring in producers where there have been dry holes in the past.

A Banker's Viewpoint

(Continued from page 24)

tion costs of the credit created by these governmental agencies socially really more economical than similar operations

carried out under private enterprise?

"No doubt, personal bias, individual interest and other prejudices and viewpoints will enter into the answers that we will be inclined to give to these questions.

"But, whatever differences of opinion we may have as to the value and nature of these remedies to be applied, on one thing all of us bankers can agree. We must approach these questions in a careful, disinterested and public spirited way, and must work whole-heartedly together to so improve our banking system as to prevent at all costs a recurrence of such a banking crisis as we faced last year.

"Personally, I feel that, notwithstanding the many problems that face us, there is much cause for taking a hopeful view of the future. Past months have brought with them heartbreaking readjustments which tested the stamina of every banker, but one cannot compare the present conditions with those of last year without stimulating a degree of optimism. Substantial order has been brought out of chaos and we are definitely back on the road to economic recovery. In this connection I would like to quote from one of the country's ablest leaders of finance, namely, Governor Black of the Federal Reserve Board, who recently said at the North

Carolina Bankers' Convention that the American banking system is in the best condition that it has been in in a lifetime, and that he had no fear for the future of America."

Ten Cents Refund for Returned Cotton Cement Bags

In the July MANUFACTURERS RECORD, referring to the fact that more than 100,000,000 cotton sacks were used for shipment of cement in 1933, it was incorrectly stated that a rebate of 2½ cents each is allowed for each returned cotton cement bag. O. N. Lindahl, auditor, Universal Atlas Cement Co., Chicago, calling attention to the error writes, "for each cotton cement sack returned to the Cement Company the customer is refunded 10 cents instead of 2½ cents, as stated."

Sawmill Installs Moore Dry Kilns

Employing the new "low-temperature" method of seasoning, a large and modern battery of Moore Dry Kilns of the "Reversible Cross-Circulation Fan Type" have been installed in the plant at Bessmay, Texas, of the Kirby Lumber Company, Houston. The Moore Dry Kiln, Jacksonville, Fla., designed the new kilns and installed them.

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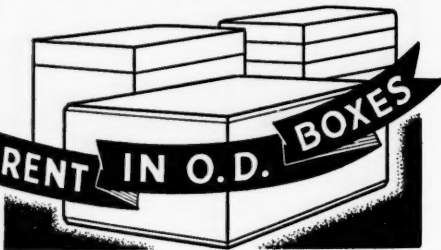
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CHAMBER OF COMMERCE

Completes Intracoastal Canal Link

(Continued from page 20)

Industrial interests and shippers of heavy commodities are eagerly looking forward to completion of the canal. Iron and steel products, agricultural implements and farm machinery, automobiles and other heavy commodities are expected to move in large tows from the manufacturing centers along the Mississippi and Ohio Rivers and the Great Lakes districts, to distributing centers along the route of the canal, such as Port Arthur, Orange, Beaumont, Houston, Texas City, Galveston, Freeport and Corpus Christi. North bound cargoes will consist largely of petroleum products, sulphur, salt, rice and other bulky commodities. Citrus producers in the Rio Grande Valley whose rapidly increasing output is causing them to seek new markets, are investigating the possibilities of refrigerated barges. New trees coming into bearing within the next two or three years are expected to increase the citrus production of that area to at least 25,000 cars a year.

Ten years ago the late General George W. Goethals, who was the Intracoastal Canal Association's consulting engineer, following an exhaustive study, made a

report on the canal's commercial possibilities. In his report, which was submitted to the Government engineers and to the Rivers and Harbors Committee of Congress, he said:

"Considering the shipments of sulphur and the materials needed for its production, as well as of steel shipments for other purposes that will go by the canal, the present tonnage possibilities of such a waterway are between 5,000,000 and 7,000,000 tons annually, and this statement is conservative. * * *

With the maintenance of a 9-foot channel in the Mississippi River; with the completion of the Ohio River improvement; and with the enlargement of the Chicago-Mississippi Canal, the tonnage possibilities of the canal (the Intracoastal) will exceed 12,000,000 tons annually * * * and the Intracoastal Canal will become a vital part of the great inland waterway system of the country."

Final completion of the Intracoastal Canal will give Texas and the Southwest access, through barge transportation, to the markets of the North and East in connection with the Mississippi River and its various tributaries, and eventually with the East Gulf Coast and the Atlantic Seaboard through the Intracoastal Canal system. Industrial development in the area served by the waterway is expected to receive a marked stimulus from lower costs in the assembling of raw materials and the cheaper

movement of finished commodities to consuming centers.

A large plant representing an investment of about \$10,000,000.00, erected at Corpus Christi by the Southern Alkali Corporation—a subsidiary of the American Cyanamid Corporation and the Pittsburgh Plate Glass Company—for the manufacture of caustic soda and soda ash, and another similar plant built by the Mathieson Company at Lake Charles, Louisiana, presage the new era of industrial development which the Intracoastal Canal assures for Louisiana and Texas. An abundance of essential raw materials, with cheap fuel, natural gas, oil and lignite in unestimated quantities, ideal climatic conditions, ample labor supply—with the assurance of cheap transportation—combine to make the coastal section "from the Mississippi to the Rio Grande" the new frontier for industrial development and progress in America.

West Virginia Publicity

Reorganization of the West Virginia Publicity Association has been effected with W. T. Williamson, president, and Ross B. Johnston, secretary, both of Charleston. An active program for immediate development of the state has been undertaken.

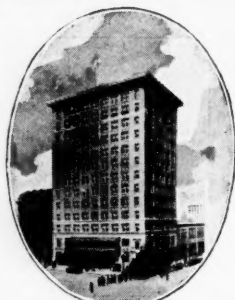
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High grade MICA deposit for sale at a low figure for immediate sale. Full investigation solicited. Piedmont Engineering Co., Box 232, Charlottesville, Va.

FOR SALE OR EXCHANGE, 20,000 acres of best coal in West Virginia. Also interest in mine for funds to rehabilitate and put in operation. Two unusual opportunities. Florida property, particularly a hotel of moderate size would be considered as part payment on large tract. Address No. 9283, Care Manufacturers Record.

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(Continued on page 62)

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National Society of Professional Engineers

PROGRESS is reported in the organization of the National Society of Professional Engineers since the initial conference held last May of representatives of the New York State Society of Professional Engineers, the New Jersey Association of Professional Engineers and Land Surveyors, the Pennsylvania Society of Professional Engineers, the Connecticut Conference of Engineers, the South Carolina Society of Professional Engineers, and the American Association of Engineers. Dr. David B. Steinman, of New York, was elected temporary chairman and Gerald W. Knight, secretary, 38 E. Park Street, Newark, N. J.

The proposed constitution of the National Society of Professional Engineers lists as its objective, to represent the united engineering profession on a national scale; to advance and protect the economic and professional interests of the engineer through united effort, legislation, and public relations; to unite, coordinate and extend the activities of State Societies of Professional Engineers and their local chapters.

Gallon Road Machinery—Literature recently issued by the Gallon Iron Works and Manufacturing Company, Gallon, Ohio, includes Bulletin 173, devoted to Gallon Road Rooters for any kind of scarifying and rooting; condensed Catalog No. 175 to Gallon Road Machinery, and Bulletin No. 170 to Gallon Mixing and Leveling Drag.

(Continued from page 59)

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